The Journal of the American Medical Association

VOL. XXIV. CHICAGO, JANUARY 26, 1895. No. 4.

ADDRESSES.

RADICALISM AND CONSERVATISM IN GYNECOLOGIC SOCIETIES.

Address delivered at the Annual Meeting of the Chicago Gynecologic Society, October, 1894.

BY F. H. HENROTIN, M.D.

CHICAGO.

An address by the retiring President seems to be one of the leading features of the annual meeting of this Society, and I see by the program that I am not to be spared this year.

Gynecologic societies are generally organizations of comparatively recent nativity, and are the result of the recognition of gynecology as a distinct and all-important branch of medical science. I am not in possession of facts by which I could outline to you the history of these societies generally, but the work they accomplish is so important that I thought I might entertain you upon their peculiarities and their field of usefulness. Previous to the last two or three decades, the work now accomplished by these associations was made a part of the transactions of the general medical societies, and later on, of the obstetrical societies. As gynecology developed, however, and the womb of alma mater brought into the world the modern aggressive abdominal surgeon, gynecologic societies made their appearance, and to-day they are a factor and a power, whether local, national or international.

The gynecologic society of to-day is usually a select, exclusive, limited and energetic body. The individual in a community who first announces himself as a specialist in the treatment of diseases of women is usually a man who by reason of his ability in that department combined with an appearance, deportment and breeding which commands respect, has been unusually successful; and a society formed around a nucleus of a few such men can hardly help being select. That such a society, select in its membership, should become exclusive and limited is but fitting, and this very limitation makes its members energetic and untiring. Small societies when composed of the right material, constantly surprise us by the character and the amount of good work done.

Among the startling figures in every gynecologic society is the radical. It was probably one or two of these who originated the society itself and who are among its founders or charter members. The radical gynecologist is usually a great fellow. He generally has the best and most remunerative practice in that section of country. His jaw is square and he usually has an opinion, and does not hesitate to give it when requested. In practice he is a "grand *couteau*" and is at his best in abdominal surgery, and when he goes in after something he usually brings it. He generally does but little gynecologic tinkering or "swabbing" as he calls it; that is, since he has become a radical. He did begin with glycerin tampons, but he has forgotten that. He is, as a rule, a full professor in an undergraduate college unless he has been frozen out by some phase of college politics, and if he is the right sort of a radical, rest assured that no one else teaches that branch in that college.

He is a skillful operator, accustomed to operate before the class, and when he cuts into the bladder or perforates the uterus, usually no one knows of it until it is ascertained if the patient recover. He gets through the abdominal wall in seconds and makes vaginal or abdominal hysterectomies in minutes. He is always a fighter, if a true radical, and ready to take his punishment like a stalwart. Methods differing from his are usually not good methods, and he fights them with knife and pen and tongue. He is, however, a good brave friend and has magnificent courage in proclaiming and maintaining his convictions. When some fellow member writes and reads an article on conservative surgery of pelvic diseases, a strange, far-off look settles in his eyes until the discussion opens. There is much to admire in this man. He gets many hard knocks. The medical practitioner who seldom opens books to read, and never uses a lance, I mean the man practicing medicine with a license and no more, is extremely fond of enlarging upon the present practice of wholesale removal of internal organs by certain men, and when doing so is quite as emphatic and denunciatory as can well be imagined considering their common allegiance to the same profession.

In more moderate terms there come also words of dissent from the youthful and inexperienced. Many of us remember the time when before becoming more expert, we considered radical operations usually unfortunate.

Then again, more serious yet, the general surgeon, and, it may be, a fellow member of the same society must have his say concerning the tendency of modern gynecologists to perform these horribly mutilating operations without reason. The general public also takes up the cry, and the press, or some uninformed unfortunate fellow through the press, dilates upon the butchery and unwarranted license in operating.

All the hot coals kindled by the aforementioned are heaped upon the head of our friend, but he stands bravely to his colors. There is one shaft, however, that wounds him in the most tender spot, and that is the one hurled by one of his own kind beneath the shield of conservatism. An honest radical will stand anything in the way of criticism better than one word from the man who, practicing the most extreme radicalism in surgery is constantly writing and preaching and talking conservatism. When too old to operate, if he does not kill himself by overwork, he sometimes becomes more conservative.

I protest against all these denunciations of the great work being done by these men, and against the unfortunate tendency of some men who write on conservative methods in such a manner as to convey criticism. It was the work of these very men that lifted gynecology far toward its present plane, and in fact, it was the radical procedures that later on rendered conservative methods possible.

That occasionally surgical enthusiasm carries some of these disciples beyond the line of prudence is not denied, but a sin of commission in this respect is not more baneful than one of omission, and on the whole, they usually deserve their reputation. I need not mention names to call to your minds the many men who were persecuted and anathematized for their boldness in the field of gynecic surgery, and yet who are now recognized as having accomplished heroic work in the establishment of the life-saving methods of to-day.

There is an old saying that "Competition is the life of trade." I do not believe it. Whether in trade or in profession, the successful man does his work honestly and perseveringly through his love for his labor and with an honest ambition for success, but without envy for his rivals; profiting it may be by the experience gained from the mistakes of others, but traveling his own road diligently and not striving to pull others down.

In the great struggle for supremacy of these latter days, there is too much of this "knifing," as I might call it. The men at the top are almost constantly at bay. Many of them become unapproachable because of the habit of being perpetually on guard to defend their views. They thus imperceptibly acquire almost vicious dispositions. One man hardly treats Americans with civility, because some Americans have criticized him too harshly. Another does not stir from Philadelphia or Baltimore except in armor clad, for all emergencies prepared, and so on throughout the land, each according to his greatness having a larger or smaller enemy's territory to watch.

These remarks do not apply to proper, just, intelligent and dignified criticism, where such is fit. A deep thrust of a Jaggard blade is frequently quite painful and makes one writhe, but the knife is clean, the wound aseptic, and a veteran is the better for the experience.

All the above I say preparatory to the usual good advice and suggestions of a retiring President, and they come in mind, in view of the constantly increasing evil of criticizing the man in our societies, and forgetting the fact that we are only brothers of one family. Moreover it does not apply to this society more than to many others; though organizations largely composed of men devoted to some special branch are most likely to err in this direction. Allow me, then, to confess some of our sins, and expressing contrition, make resolutions for the future.

Special societies then, being select and limited in membership, should be composed of working members only, and any individual joining but not giving his share of labor, should be allowed to go. Of this there can be no doubt if good is to be accomplished. The gentleman who joins our ranks and makes his appearance once a year or fails to send a paper does not belong with us, no matter how great his name nor how high his standing. The gentleman, also, who appears once a year to read a paper or present an instrument or a specimen, and never comes to hear any other man's paper or view another man's instrument or specimen, is of very little value as a member, and both of these species should be called to time in a gynecologic society. We will, therefore, pay more attention to attendance at our society in the future, and damned be he who never comes.

We recognize obstetrics as the fountain head from which we sprung, but we acknowledge that we are constantly forgetting our parentage and that we give too little time to its consideration. This is positively a fact. I defy intelligent contradiction to the assertion that apart from the teaching of asepsis, there is more empirical, loose, non-scientific obstetrics practiced in this country to-day than most men would be willing to acknowledge, and even asepsis is used as a cloak to bungling work. This country, with full knowledge of what clean scientific obstetrics means, has done less than any other in rendering that knowledge universal. Concerted action emanating from gynecologic and obstetric societies is most emphatically needed in the regulation of irregular midwifery schools, and in the propagation of scientific midwifery. We will elect as our officers to represent us before the community and in the profession at large, men only who by their good work deserve the distinction and who will not allow politics to creep in our midst.

In our discussions and criticisms we will observe a standard above and beyond all personalities, and be guided by an elevated sense of the dignity of our calling. We will slash without fear the arguments which we believe unsound, and destroy to the utmost all teachings which we consider bad.

Unprepared essays and irresponsible hasty assertions will be expunged from our proceedings and the blue pencil drawn gently through the title: "My last 1,000 hysterectomies," or the photograph of the sort of basin in which to wash the hands preparatory to a laparotomy.

And when a general surgeon in our ranks informs us emphatically that this wholesale sacrifice of uteri must stop, that the history of gynecology in the last ten or twenty years must be written over, we will gently invite him to read us a paper on exsection of the malignant parotid and larynx, with statistics, remembering that good breeding will not allow us to notice if the gentleman turns red in the face.

Lastly, as regards the assistance we propose to render to the latest advanced movement in gynecologic circles toward "the Conservative Treatment of Pelvic Intra-abdominal Diseases," we have this to say: We all confess that in our early work we sometimes failed to recognize diseased organs before operating, and we further acknowledge that we sometimes were very little wiser when we had these organs in hand and sight, and that our anxiety to know whether we could exsect such organs safely was greater than our knowledge of what constituted pathologic conditions, and that therefore few of us feel perfectly free from just blame. We state upon honor, however, that since we have learned to distinguish intra-abdominal pelvic disease, we are all conservative and are guided only by one desire; to cure the patient and to cure her permanently and completely.

That we recognize and acknowledge that to radical methods and radical operators is due a large amount of the credit gained by conservative operations later on, and that we have no desire to discredit such gen-

tlemen but cheerfully acknowledge their assistance and the value of their labors. We also desire to state that it is our experience that so-called radical operations are very frequently really the most conservative in their ultimate effects, and that these questions are still debatable and will remain so until closer and more frequent and more complete observations help us to reasonable conclusions.

That we believe that all the members of our society and kindred societies are honestly endeavoring to secure the most desirable results, both immediate and ultimate, and that the discreditable work is done by the inexperienced who is honest and conscientious, and the inexperienced who is not conscientious, and that we will do all in our power to assist the one and to disarm the other.

Finally, that we pledge this society as such, in unison with other gynecologic societies, and its members individually, to an honest, earnest and dignified endeavor to promote the aim of all, and that we recognize in our ranks neither radicals nor conservatives, but simply co-workers with one and the same aim—the alleviation of the sufferings of womankind.

PRESIDENT'S ADDRESS.

Delivered at the opening meeting of the Academy of Medicine, Louisville, Ky., Jan. 7, 1894.

BY T. L. McDERMOTT, M.D.

PRESIDENT OF THE ACADEMY OF MEDICINE, LOUISVILLE.

It is a gratifying duty that devolves upon me, to welcome you to these quarters and to inaugurate the opening of the Academy of Medicine. It has long been a matter of unfavorable comment that so prosperous a medical center as this, embracing in its circuit so many luminous votaries, who would add grace and lustre to any sphere, has so long been denied the pleasure and profit that must, of necessity, arise from more intimate communication among its most zealous devotees.

Aside from the fact that such gatherings, not only foster the purest instincts of ethical fraternity but also refine and advance our calling, the mere existence of such an Academy proves the unselfish desire of its founders to strengthen the professional ties that bind us to a lofty purpose, the elevation of our guild and the widening of its beneficent power. What prince or potentate beloved of the populace, has a higher incentive or a nobler aim than we? The glamor of its past has endeared it to every age, and its grander progress in the future will be ended only with the decay of time. From humble beginnings it has traced its prospering presence, through all the years, growing grander in its victorious march at every stage of its eventful career. Nor was its progress made through tortuous channels or by the aid of misleading sophistry. It advanced through broad and open paths that reflected the enlightenment it had gained in its way. Neither the trick of the charlatan, nor the lust of the miser found encouragement or lodgment in the councils of its faithful band. They were always the same brave legion, levying tribute from industry and genius to embellish the temple they were building for the world. A frank and manly army were they that shattered the idols of fraud and turned the heedless ear to the alluring temptations of princely influence or debasing gold. The crown won by those humane apostles of science by means of such sacrifice and devotion has been transmitted to us, and through us, to posterity; and I hope we are erecting a sanctuary where fitting proselytes may be dedicated to the noble task of carrying us forward to greater victories and grander trophies.

While a well poised modesty might forbid any rash expectancy, who can tell but that from our humble midst some brilliant star may yet illumine paths that are still dark, and that yet may open glorious vistas unimagined in our brightest dreams? From less promising beginnings men and measures have risen into exalted prominence and have brightened the pages of history with their renown.

I hope this meeting will be the forerunner of a long and intimate companionship, embittered by no envious rivalry, or selfishly sought prominence. I hope it will be the personal aim of all to extend and perpetuate the usefulness of this association; for in no other calling is there so often need of a helping hand and of charitable counsel. Give lavishly of both to the aspiring and the humble, for the general good is only attained by common effort and self-abnegation. In every city of considerable size in the world, a society like this has been the Mecca and the inspiration of the proudest exponents of our science.

Forbearance toward the frailties we all possess and a zealous enthusiasm for the common good are the cardinal elements of success in this undertaking. Every individual member must feel that upon his efforts largely rests the usefulness of the society. We start the enterprise to-night in a general way. It depends upon the majority of the body to guide our steps in the future into such paths as may seem most desirable for the general welfare. It is intended that these quarters shall be kept open daily and that they shall be supplied with all the latest periodicals. It is hoped that the members will avail themselves of this opportunity to cultivate each other and to study together. In a long experience as a student and practitioner, I have realized that the most valuable lessons to me, were those I learned by contact with fellow doctors. The benefits resulting from quick and constant relations with other men in the same pursuits as our own are inestimable, whether at the bedside, or on the rostrum. A consultation in either case, not only decides the hesitating but confirms the established opinion. Those who have sometimes wavered in momentous dilemmas can tell how grateful they were to a helpful brother whose sturdy skill gave them medical guidance, or whose masterful poise in a fateful moment checked the rashness which might have jeopardized a precious life.

The Academy is especially intended for the encouragement and development of the younger members of the profession; and it is hoped they will excite and emulate the generous rivalry that intellectual efforts stimulate and improve. To them must we look for that breezy personality that gives vigor and freshness to an enterprise whose vitality so largely depends on an active and eager membership. It should be the duty of all to maintain that benevolent harmony, without which existence, if possible, would only be characterless and without profit or pleasure. Let it be the unwritten law of the assemblies that captious criticism, acrimonious debate or selfish display shall beget silent scorn rather than generous tolerance. No acerbities must be allowed to mar the peaceful haven we have designed for our exploits

We have no need for warriors or their methods in this Arcadian realm where we hope the white-winged messengers of peace and forbearance will insure a long and honorable prosperity. Rather let us emulate the busy bee, whose quiet but indefatigable industry slowly but surely achieves results that furnish the text for the grandest ambition. Nothing is accomplished in scientific circles by the lash or the sword. Patient delving, silent study, harmonious communion and comparisons with fellow-laborers are the omnipotent factors that build and ornament the fabric whose foundations are built on stony facts and gilded with empyrean truths. The real architects of the world are brain-workers. In the little gray cells are evolved the masterful conceptions before which the brawny mason and the iron-monger stand in awe while realizing the insignificance of their own rude works. Franklin harnessing the lightning, Morton evolving an anesthetic, Jenner elucidating vacciniæ, these are only a few of many instances I might cite to show the tremendous value and glory of mental achievements before which the brutal deeds of giants, the bloody triumphs of armies and the huge works of ponderous machinery pale their fitful luster as ignominiously as a flickering taper in the glare of day. Mind dominates matter, and the wise physician, figuratively speaking, controls the dynasty of every kingdom.

How few, even of our own number, realize the stupendous power of an alchemy or a knife that may blast a nation's hopes or break a mother's heart. Only after a lifetime of ineffectual labor is drawing to its close, does the sluggard comprehend the loss in his wasted moments or even the jaded savant, while realizing his incompetence give utterance to his impotent regrets. A song of praise or a meed of opulence may beguile us with their tuneful lullabies and may seduce the loitering dreamer while time and opportunity are running riotously away. So life, like the brook, flows on and on, and the dalliance of the year that has passed becomes the anathema of the one that is born, without relief from the curse that has blackened them all. Toward the end, prizes and power alike have exhausted their potency; and still the sluggish mill pond contains the sediment of a myriad aspirations that sparkled like iridescent diamonds in the crystal waters at their source. Only to those patient few who show untiring fidelity to their work and a lifelong devotion to duty, will come the real meed of glory. By many unostentatious sacrifices they may reach a pinnacle for others' wonder, may build an immortal monument for themselves, while giving health and happiness to untold millions. The lesson of a self-sacrificing life is not lost. Even moderate intellectual powers, rightly applied, may bring us greater rewards than riches or rank, though they also can be won. To many of us belong such intellectual attributes and powers. What tocsin shall wake them from their slumberous lethargy?

"Lives of great men all remind us,
We can make our lives sublime."

But how or when? That is the burning question which glows in the morning of intention, but the night shades of delay enshroud them in their pall. The enigma finds solution in the gathering of this evening, the clash of intellect in seemly debate encompasses the defeat of error, and as the sword in battle leaves only the imperishable to valor. Out of the destruction comes conquest, and truth and fame are the rewards of the struggle. Let us cultivate these discussions then, in the spirit in which they are instituted, for self-improvement and the advancement of medical research, always keeping in mind the axiom, that in "unity there is strength" and that the end to be attained is the common good of all. Let us not imagine for an instant that any individual member of this society is essential to its future welfare. Egotism and contention are a baleful menace to our prosperous continuance. Our association must be harmonious to be stable. Let the suave chivalry and the courtly demeanor of the drawing-room add lustre to the learning and skill of the polished doctor and let the wounds of debate be forgotten at their close. Recriminations inadmissible in convivial society should find even less tolerance in the efforts of scientific explorers. Let the torrid Hotspur bathe his reeking flanks in patience and accord forgiveness to petulant zeal, always remembering the object of our meeting is to promote medical study for the enlightenment of our guild. This is our professional home. Beneath its shelter we can all find a warm welcome and a pleasing habitation. Let the discordant sounds that shock men in the busier marts of trade find no echo in its precincts, hallowed by so many associations and sacred to such lofty themes. Within the walls of a symposium so alluring, let the traveler of science find fitting respite and a sweet hospitality in the bosom of his friends. Surrounded as I am, in this charmed circle by men I know so well, it seems superfluous to mellow the lute to ears properly attuned by study and breeding; but I feel we have set in motion a beautiful engine, capable of doing great good for us and afflicted humanity, and I would be derelict in duty to hush these notes of warning.

On the other hand, if we realize the advantages as well as the dangers that confront us, we shall succeed in the fullest measure. This society will be a beacon to all. Let its shining light not only illuminate our own lives, but guide others who are in darker lines to its fostering influences. Thus educated and equipped it may be our boast, as it has been our predecessors, that our great brotherhood has been ennobled by every generation that wore its livery.

ORIGINAL ARTICLES.

ON A NEW TYPE OF NEURASTHENIC DISORDER—ANGIO-PARALYTIC OR "PULSATING" NEURASTHENIA.

BY CHARLES L. DANA, M.D.

PROFESSOR OF NERVOUS AND MENTAL DISEASES, NEW YORK POST-GRADUATE MEDICAL SCHOOL; VISITING PHYSICIAN TO BELLEVUE HOSPITAL. NEW YORK.

The present tendency to analysis and differentiation of clinical types is a helpful one. It may at first sight seem to encumber our nosology needlessly, but the final result is to secure a better comprehension of disease, its cause and its treatment, as well as to lead eventually to simpler classifications. This fact has been well illustrated in the history of neurology. I feel sure that the differentiation of a good many types of neurasthenic disorder will eventually be made and that this, if carefully done, will help to remove the indefiniteness at present suggested to our minds by the word.

Such is my apology for attempting to describe a new type of neurasthenic disorder now.

I have had six patients who all presented very distinct and peculiar symptoms. Coming to me at varying intervals I have been struck with the similarity of their symptoms. It justifies me in claiming for them a distinct type of functional disorder.

The clinical portion is best shown by telling the story of one of my patients:

Case 1.—He was a furrier by trade, an Englishman by birth, married, and 29 years of age; his mother had heart disease; the rest of the family were healthy. He was always a strong and active, though nervous, young man. Since a boy he had used tobacco excessively and drank much beer. He had never had syphilis or bad sexual habits. When he was 18 years old he was attacked with a sudden fainting spell, and a few days later he had something like a convulsive tremor. The seizures were evidently due to excessive smoking. Since these attacks, which did not recur, he has had a general feeling of pulsation through the whole body. It is not his heart alone but his chest, trunk and head that throb in unison with the heart beat. This pulsation stays with him day and night, and in every position of the body. Neither rest or activity modifies it very much. Abstinence from tobacco and alcohol does not relieve it. It is accompanied with some nervousness, and he occasionally has a sense of propulsion as though he were going to run forward. He has very rarely vertigo but no tinnitus aurium. He sleeps well. His symptoms have continued, with varying intensity, up to the present time. He is now, however, rather worse. An examination of him reveals a healthy, nervous looking man; the hands show a fine tremor. The skin is dermographic, to such an extent that one can distinctly write a name on it which comes out bright and red and remains for thirty or forty minutes. The skin is moist and ruddy, the pulse very soft, compressible, the rate being 80 per minute.

There is no goitre or exophthalmos. He sometimes has a little vertigo; but no pain, or headaches. His special and general sensations are normal. He has no atrophy or paralysis. There is some exaggeration of the knee-jerks and a considerable degree of the static ataxia which I find common in neurasthenics. His urine is normal. His heart is normal, beating strongly, yet it is not hypertrophied. There are no murmurs. Pulse, 75. He has a decided epigastric pulsation and a systolic murmur is heard here. Pressing on the carotids lessens quickly the throbbing feeling in his head.

The trouble makes him nervous and distressed, and he is barely able to attend to his business. A long rest, including a sea voyage, and abstention from tobacco and alcohol did him no good.

Under treatment he improved slowly. Two years later I saw him again. His health was much improved but the pulsation still annoyed him.

Case 2.—The second case was more remarkable by reason of the successful therapeutic procedure employed. The patient was a man 27 years old, single, an oyster opener and dealer by trade. He had worked very hard and been exposed to wet and cold. He denied, absolutely, sexual excess and venereal disease. He used alcohol and tobacco in moderation. It is to be remembered, however, that assertions of temperance in these things are not always trustworthy; and in this patient I thoroughly suspected masturbation. His parents had no nervous trouble. He had had most of the diseases of childhood, but was always fairly well aside from these. In 1884 he had typhoid fever. In May, 1889, he suddenly and without known cause, began to have attacks of palpitation of the heart. This gradually passed into a condition in which he felt a sensation of pulsation all over the body; a general throbbing, synchronous with the heart beat. This beating was much more marked in the head and was here accompanied with a feeling of pressure in the occipital region. He suffered a great deal from cold hands and feet. He had no dyspnea and no pain. His appetite and digestion continued fairly good but he became very nervous and mentally depressed; and his sleep was disturbed. In fact he denied that he slept at all. I first saw him in March, 1890, a year after his trouble began. Examination at this time was largely negative, so far as objective symptoms are concerned. He was fairly nourished but rather thin. The lungs and abdominal viscera were normal. The heart action was not strong, but there was no dilation or murmur. The rhythm was normal, and the pulse rate never high, ranging from 70 to 80. The pulse was very soft and of low tension, the hands and feet cold and easily congested. The skin was very dermographic, a mark upon it lasting five hours. He had an epigastric pulsation. Pressure on the carotid stopped the beating on the side of the head on which pressure was made. There was a slight enlargement of the thyroid, but no exophthalmos, no tremor, no sweatings, no heat sensations. The reflexes and the special senses were normal. The urine also was normal in amount and reaction: specific gravity 1026. It showed great excess of phosphates. His intelligence was good; he was not hysterical. No form of treatment, mental or medical did him any good. He had given up work because he said he could not attend to it.

I finally sent him to the hospital and had him put to bed and carefully watched for possible masturbation element. Rest, carotid compression, tonics, sedatives, ergot, digitalis and other drugs failed to relieve him except that his sleep was improved by sulphonal.

He became willing to undertake any treatment for his relief, and I finally sent him to Dr. Seneca D. Powell who kindly undertook to tie the common carotid. This was successfully done at the Post-Graduate Hospital in the fall of 1890. After the operation the patient expressed himself as quite rid of the distressing beating so far as the right side of the head and body was concerned. He felt so much relief that he was able to endure the left-sided beating. He left the hospital and went to work. Dr. Powell and myself have seen him at intervals since. He continues better; the beating has not returned on the right side but continues on the left. He has gained some in flesh and strength and is comparatively comfortable, it being now over three years since the operation.

Case 3.—The patient was a young man of 25, of healthy antecedents. He denied venereal infection. He was always of a nervous temperament. For the past three years he had drank excessive amounts of beer, had sometimes taken a small keg in a day. He smoked moderately and there was no sexual excess. In the spring of 1894, while in apparent health, he awoke one morning with a feeling of dizziness and nervousness; sensations of beating and throbbing appeared; he became very nervous and depressed and was unable to concentrate his mind on his work. A beating sensation was felt in his head and chest continually and caused him great distress. He had also headache and insomnia, and ringing in the ears. He placed himself under the treatment of a local physician who found a sensitive urethra and treated him a long time for this with slight benefit. When examined by me, I found a rather rapid pulse, 85 per minute, of low tension. The heart was normal in size and sounds, the peripheral circulation was sluggish, the extremities cold and easily congested; the skin was dermographic; there was an epigastric pulsation, though not so marked as in other cases. An examination of the eyes by Dr. Wm. F. Mittendorf showed astigmatism and a slight venous pulsation of the retinal vessels. The tongue was coated and the bowels constipated. His most annoying symptoms were the beating, the nervous depression and that indescribable feeling of incapacity to work and enjoy life which the neurasthenic dwells upon so much. I should add that he had repeatedly tried to master his sensations and go to work, but they never left him, and he returned to his invalid habits in despair. He has improved considerably, but is still far from well.

I have not met with exactly similar cases in women.

Case 4.—A married woman, aged 55, and several years past the menopause, has frequently complained of the same pulsating sensation. She is rather large and plethoric, and is of a nervous temperament. For several years she has suffered from nervousness, insomnia and the vasomotor symptoms of the climacteric. She now complains chiefly of the constant "beating, beating, beating" in the head and chest, and is quite sure a vessel will burst unless it is stopped. The pulse is quite regular, constantly at 100, but there is absolutely no exophthalmos, goitre or even tremor. Basedow's disease does not appear at this age. Her heart is slightly enlarged, and there is a systolic murmur at the base, which, however, disappears when she gets relieved by treatment of the tachycardia and pulsation. The urine is normal. She improves rapidly under aconitia and rest. The pulse got down to normal, the murmur disappeared and she was comparatively well for six months. The symptoms returned for a few months under stress of some domestic affliction and have been again relieved.

It is evident that cases of this kind are more closely related to Basedow's disease than those before

described. They are not due to any heart lesion, for people with heart disease do not have such pulsating phenomena except during attacks of palpitation.

The other cases which I have seen have not all been so severe and obstinate as the above four, but the patients have shown the low tension pulse, vasomotor weakness of extremities, subjective sense of beating felt most in the head, epigastric pulse, dermographic skin, insomnia, nervousness and mental depression.

Etiology.—So far as my experience goes, the cases occur in young men or adults under 40. I have not seen this form of disorder in women except in the modified type described. The abuse of tobacco and alcohol, particularly the former, was the conspicuous exciting cause in two cases, while tobacco and alcohol and sexual excesses were factors in the others.

Pathology.—The instability of the vasomotor system in neurasthenics is well known and has been particularly shown by Wolf (*Allg. Zeitsch f. Psych.* xxiv.) and Anjel (*Arch. f. Psych.* viii., 2). The special symptoms of palpitation, of epigastric pulse and of tinnitus, fullness of the head, head pressure and throbbing are also familiar. But the patients I describe have more than this. There is a general pulsation of the body felt most annoyingly in the head but also in the trunk. One patient (Case 2), when suspended in a Sayre's apparatus, could be distinctly seen to move with each beat of the heart.

It appears to me that in this condition there is an abnormal relaxation of the arterioles and capillaries, the blood is thrown into tubes that have lost their resiliency and thus the pulse waves are not fused together. It is as though a liquid were thrown through a series of tubes with flabby non-elastic walls. Hence the heart-beat is strongly felt all along their course as far as the capillaries. Besides this there is after a time a hypochondriacal element in their cases. The patient's attention becomes fixed unalterably on his sensations.

Van Hósslein (*Miller's Handbuch der Neurasthenic*, p. 127) describes the case of a neurasthenic who suffered from epigastric pulsation. This tormented him so that he went to a surgeon who opened the abdomen thinking he had an aneurysm. The abdominal aorta was found to be perfectly normal; the wound healed and the patient was cured.

I doubt if Dr. Powell's success can be accounted for in this way, because he only cured one side of the man. Yet it seemed to help him generally and permanently more than one would expect from the nature of the operation.

Symptoms and Diagnosis.—I have already referred to the characteristic symptoms of the malady. The patient is neurasthenic and presents the general symptoms of this condition. But his special symptom is the sense of beating of which he never loses the consciousness. He has a low tension pulse of normal or but slightly accelerated rhythm; he does not have palpitations occurring in paroxysms as in Basedow's disease. He may or may not have tremor; there is a striking degree of dermography, and an epigastric pulsation. Pressure on the carotid stops the beating on the corresponding side of the head. There is no evidence of exophthalmic goitre. There is, usually, insomnia, nervousness and mental depression.

Treatment.—The striking success of surgical treatment in one case leads me to believe that ligature of an artery is the surest cure for the disorder. Still in the milder and less typical forms, cure is obtained by the use of general and vasomotor tonics, in other words by the ordinary treatment for neurasthenia. I have found no benefit from ergot. Restrictions must be promptly placed upon the use of tobacco, alcohol and sexual indulgence. Potassium iodid, hyocine, hydriodic acid and arsenic sometimes act well in this as in other forms of vasomotor neuroses. Aconitia in doses of gr. 1-200 may be of service. I strongly advise against the use of the bicycle in these cases.

A prescription containing bromid of iron gr. ¼, bromid of potassium grs. x, hydrobromic acid ♏ viii and spartein sulphate gr. ⅓, gives relief in many cases. Bromid of camphor and strychnia are often useful. I insist, when possible, upon the patient taking hydrotherapy in the form of a Charcot or Scottish douche.

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A FURTHER DISCUSSION ON MALARIA A WATERBORNE DISEASE.

Read before the Mississippi Valley Medical Association at its twentieth annual meeting, at Hot Springs, Ark., Nov. 20, to 23, 1894.

BY W. H. DALY, M.D.

PITTSBURG, PA.

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A paper which I read before the American Climatological Association, in Washington, May 29, 1894, entitled, "Some Practical Observations on so-called Malaria being a Waterborne Disease," and published in the *Medical Record* of Sept. 15, 1894, has called forth in the *Medical Record*, and other medical journals, much correspondence pro and con; it has also brought to me many private letters from prominent medical men, who have read my paper, many, in fact most of them, not only indorsing my observations and views, but giving as a result of their own independent observations, data which strengthen the position I have been brought to contend for. I am pleased to learn of the widespread attention the paper has received, and only ask that the same unprejudiced observations will be resorted to that my paper comprehended, that every factor in the question shall be taken account of, and that causes and consequences shall be followed up, in considering both the evidence of the water, being the sole or chief vehicle of the Laveran corpuscle passing into the human organism, or the air we breathe, or whether both the air and water are the efficient vehicles of the germ finding its way into the blood, where we know it exists in the pathology of malaria; producing its manifestations, known to us as paludal fever, malarial fever, or chills and fever in its multiforms.

In summing up the evidence in a given case of so-called malaria, it is important to remember, that the water vehicles of malaria may include contaminated land water, taken into the stomach on the stalks of celery, or on the leaves of lettuce, or it may find its vehicle in the rinsing of milk cans with malarial water, or in the adulteration of milk with contaminated water containing the Laveran germ; the cistern water stored under the earth may easily be contaminated by the earth water containing the germ, if the

cistern itself is cracked or otherwise inefficient; the fact that the patient has drank at all of suspected water, even but once, ought to be taken into consideration, as the single draught of contaminated water may have contained all the necessary germs for the infection of the blood and the production of the fever.

It can well be understood how the greatest care must be exercised in a malarial country to avoid taking into the stomach, some time or other, the germ in drinking water, and it will therefore appear at once, how necessary it is to exclude the water possibility, in making up data that will exclude the air theory of infection.

In order to define my position on this question, permit me to quote from my article in the New York *Medical Record*, of Sept: 15, 1894, wherein I say: "Twenty years' observations and studies on this subject, and investigations made in various districts from Manitoba to Louisiana, and all along the southern coast of the Atlantic Ocean, and of Cuba, Yucatan, and other districts in Mexico, lead the writer to the conclusion, that so-called malarial disease is not easily, if at all, contracted by inhaling so-called malaria or bad air, of the low, swampy, or new lands, but it is distinctly, if not *almost exclusively*, due to drinking the water that has come into contact with, and become infected with, the malarial germs or infusoria that exist in the earth and waters of the swamp and lowlands. This germ does not ordinarily, if at all, float in the air during the day, nor does it find easily a vehicle in the fog or vapors of the night. Indeed it is difficult to understand how one is to avoid the night air, even if it is conceded to be deleterious—a conclusion I much doubt. Does any other air than night air exist at night? Is it possible to breathe any other? Is there any habitation sufficiently sealed against the outside air, to make the breathing of outside night air impossible?" It is the water alone that can and must be avoided; to avoid the air is quite impossible.

Touching the important general question of malaria, it is pertinent to quote from a recent review in the *British Medical Journal* of Oct. 27, 1894, of Dr. A. Laveran's work on "Paludism," as translated by Dr. J. W. Martin, of London, and printed by the New Sydenham Society for 1893. The review says: "It is interesting to note the different ways in which two of the most important discoveries in pathology of modern times have been received. No sooner had Koch proclaimed the bacillus tuberculosis, than it was accepted with acclamation on all hands, immediately stamped as genuine, and passed as good current coin. This was in 1882. Two years before this date, in 1880, Laveran described the microörganism of malaria. The discovery was hardly recognized at the time, and even now, after a lapse of thirteen years, it excites so little interest that many are unaware that it has been made. The pathogenetic character of the schizomycetes (fungus or bacteria microbes) as a class had been well established long before Koch made his famous discovery, but no one suspected that an equally if not more important rôle is played by the protozoa (unicellular animals) as disease agents, until Laveran made his discovery. If we look at the matter from the practical point of view of sickness and mortality, we find that bacillus tuberculosis is credited with one-seventh part of the total mortality of mankind; the malarial organism with one-half.

"For thirteen years the great discovery has been before the profession, and yet practically nothing, so far as Englishmen or Americans either, excepting Sternberg and a few others are concerned, has been done with it. We should like to know what practical teaching in the matter there is in our medical schools, particularly in our naval and military medical educational establishments. We wonder how many of the men whose principal future lifework will lie in combating this organism have been brought face to face with the thing itself, have actually seen their future enemy, or been taught how to search for it. In this matter our medical guides and teachers, both in this country and even in France itself, have a great deal to answer for. But signs of the recognition of the importance of Laveran's work are beginning to be discoverable. Evidence of this we have in the translation recently issued by the New Sydenham Society. We trust that this semi-official stamp of recognition will at last insure its general acceptance by our countrymen, or, at all events, its thorough investigation.

"Dr. Laveran's work is a very complete, temperate and judicial statement of all the more important modern views on the subject of the malaria parasite. In the course of the work the parasite in its polymorphic forms is carefully described; its bearing on the pathology of malarial disease and the practical outcome of our knowledge of the existence of such an organism are thoroughly discussed. Interesting chapters call attention to similar forms of parasitism among the lower animals, and detailed clinical evidence is given in abundance in support of many of the statements the author advances. Dr. Laveran expends a good many pages, we think unnecessarily, in defending himself from the repeated attempts which certain Italian investigators have made, to filch from him the credit of a certain and important part of his great discovery. Any one who has read his first large work and his numerous early papers knows very well with whom the entire merit of the discovery rests. Although stating them very fully, Laveran does not see his way to accept Golgi's views of the life cycle of the plasmodium, fascinating and original though they may be."

While the great question of malarial fever is one of widespread interest, it is the one phase of it that the writer is investigating, viz.: The waterborne means of infection. Laveran says:[1] "Numerous facts tend to prove that the infection may take place through drinking water, and that persons who have contracted paludism (malarial fever) have almost always made use of water of palustral (with humid or marshy soil) localities." He says further:

1. "It has been found repeatedly that in the same localities, among persons living under the same conditions, but drinking water from different sources, some were attacked by palustral fever while others escaped.

2. "In certain localities which were formerly insalubrious it has been sufficient to place pure water at the disposal of the inhabitants, instead of the stagnant water which was formerly used, for palustral fevers to disappear.

3. "In some localities, otherwise very healthy, people may contract fever, whose drinking water comes from unhealthy localities, and the persons most ex-

[1] Paludism. By A. Laveran. New Sydenham Society, published 1893.

posed to infection in these conditions are those who consumed most water.

4. "Travelers passing through unhealthy countries often succeeded in escaping fevers, by only drinking water that has been boiled, while people who do not take that precaution suffer severely."

Dr. Norbury[2] in the *Medical Record* of Oct. 6, 1894, says on the subject of "Malaria a Waterborne Disease:" "I wish to add my experience and observation to the line of inquiry pursued by Dr. W. H. Daly, of Pittsburg, Pa., in his most excellent paper in the *Medical Record* of Sept. 15, 1894, regarding malarial infection. In the summer of 1881, while employed under the directions of Maj. G. J. Lydecker, U. S. A., in the construction of the Kampsville Lock (Illinois River improvement), Kampsville, Calhoun County, Ill., I had the occasion to observe the effects of drinking water on persons temporarily residing in this malarial district, as well as upon the native inhabitants. The land immediately adjacent to the lock site was known as bottom land—it was overflowed at each high water season—and was poorly drained, being very flat. Water stood in the bogs or swamps until the dry weather of summer had completely evaporated it. Drinking water was obtained for the men employed in the construction of the lock foundations from drive wells, put down to the depth of twelve or fifteen feet. The men employed on the dredge and tow boats and the officers used filtered river water.

"Among the many laborers who sought employment were forty Swedes, who had arrived in this country from their native land about ten days before coming to the lock; they were a vigorous, well-nourished body of men, eager for work. They took board in quarters near the lock, and drank water from the drive well. Within ten days one of them was taken down with malaria, and before two weeks ten or more had succumbed; one died and two were seriously ill. At the end of a month but three were able to continue work; one of these had no malarial symptoms at all; he worked on one of the boats, where he drank filtered water. Now all of these men seemed peculiarly susceptible to malarial infection, and as quickly as they could returned to Chicago to escape its ravages. The men who worked on the boats escaped the disease. The natives who drank of the well water were not so much affected, yet quite a number of them had to quit work. The wells used by the natives, however, were located on the edge of the bluffs, about one-half mile from the river. Here we have, I think, marked evidence of the infection coming from drinking water; for all the employes, officers and all, were situated under like atmospheric conditions and exposed to the same heat, etc., during the day, yet those who used filtered river water escaped, while those using drive or open well water were afflicted. Some three and one-half years spent in engineering work on the Illinois River confirmed my belief in the possibilities of infection from water supply, rather than from atmospheric conditions. I indorse Dr. Daly's views."

Since my paper appeared, Dr. Healy in a letter to the *Record*, asks some pertinent questions as to a solution of an outbreak of malaria some four months ago in the Twenty-fourth Ward, New York City, following the excavation for sewers, that can only be answered by a careful investigation on the ground, as to whether any of the persons taken ill: 1, had drank from wells; 2, had eaten lettuce, celery or other uncooked vegetables from paludal localities; 3, whether any had drank milk from paludal localities where the cans may have been rinsed, or milk adulterated with palustral water (malarial).

Dr. Healy, however, says as to the drinking of contaminated water, being one of the prime factors: "I can offer proof positive in the person of myself. Some eight years ago the house in which I then resided, had for its water supply a cistern and a well. After using this well water for drinking purposes for a few months I suffered from a severe attack of chills and fever. Upon investigation I found the well was receiving the leakage from an out-house as well as the surface drainage. Upon discontinuing its use all symptoms disappeared."

Dr. R. D. Jewett, editor of the North Carolina *Medical Journal*, writes me in a private letter dated Oct. 22, 1894: "Your ideas are emphatically ours, and we believe that acceptance of this fact by our people will be a great boon to this section." And Dr. Jewett has in these few lines, the gist and great good of the whole question, viz., teach the people to drink only uncontaminated water, and you have made the great advance toward settling this question. And this is the chief end and aim of my several papers; for the accomplishment of that custom will go far toward settling the question of how we are to prevent palustral fever, by eliminating what I believe to be *quasi* factors.

Dr. M. D. Hoge, Jr., of Richmond, Va., writes me in a private letter dated Sept. 19, 1894, as follows: "Your 'Observations on Malaria' in the last number of the *Medical Record* is one of the cleverest and most satisfactory articles on the subject I have ever read. I write to thank you for it, as a believer in your views for a long time past. To my mind it is the only rational and reconcilable theory on observations on this plague of our section. I am at present engaged in a study of the blood of cattle suffering from climatic fever, and hope to have something ready in a short while."

Dr. W. A. Plecker, of Hampton, Va., writes me in a private letter dated Sept. 18, 1894:

"I am convinced that you are correct in your views, and am surprised that attention has not been more generally called to impure water as a source of malarial fever."

I have received many other letters of a similar tone, and there can be no doubt that it is the duty of the profession to cultivate a habit in their patients to drink only boiled or uncontaminated water in infected districts; since they can not avoid breathing the suspected air let us at least eliminate the water factor. I confidently predict we will then have successfully compassed the prevention of palustral (malarial) fever.

We all fully agree with Laveran's researches, and it is quite well known to all my hearers that damp, uncultivated, marshy or humid soils are those that offer the best medium for paludism. The existence, however, of marshes properly speaking is not necessary, and on the other hand all marshes do not cause fever, even in hot countries; at Tahiti in Australia and New Caledonia, both of which abound in marshes, palustral (malarial) fever is rare. If the marsh then is not necessary there must be a humid soil for the Laveran corpuscle to propagate itself. The small rains which take place at the end of the summer in

hot countries, and which are soon dried up with the sun, are known to be very dangerous and productive of palustral (malarial) fevers. This fact has been observed by Dr. W. J. Lumsden, Dr. Oscar McMullen and others of Elizabeth City, N. C., who write me, saying, especially are these rains productive of new cases, as well as outbreaks of fever in old cases, among those who have drunk the water from surface wells, and the same facts are spoken of by Laveran and other observers.

The physical conditions here are evidently hot sun, brief fall of storm water, succeeded by hot sun, for the rapid growth and development of the paludal parasite; a long-continued rain, followed by colder weather are conditions unfavorable to development, as shown by the lesser multiplication of palustral disease.

There can be no doubt that the digestive juices are destructive to the palustral protozoa in the stomach, if the digestion is strong and healthful, but that condition, unfortunately, is not an ever present condition in those who drink water from palustral soil. Hence those who are most readily affected are such as are fatigued, weak, or under mental or physical strain or disease; anemia and privation also weaken the digestive vitality, and permit the passage of the parasite, through the diluted juices of the stomach into the blood. It has been so often demonstrated, as to be accepted as a fact, that parasites are developed by preference in weakened constitutions, where vitality is already lowered, just as mosses and lichens invade the trunks of sickly trees and other vegetable growths.

"It seems," says Pasteur, "that vigorous life repels other life which wishes to graft itself upon it. It is when an individual grows weak that it becomes an easy prey to the parasites which besiege it, and it has been shown that by starving animals they can be made liable to disease, which they resist in their normal state.

"The period of incubation or latent stage of palustral (malarial) fever has been shown to be from seven to nine days, and the longest period seventeen years (latter problematical), and Mariotti and Ciarocchi, Cella and Marchiafava, Gualdi and Antolisei, and Angelini, made experiments which showed that, when palustral blood containing hematozoa is injected into the blood of man free from paludism (malaria), the fever appears in the inoculated subject on an average of ten days after the injection.

"The paludal hematozoa (malarial) in the blood live at the expense of the normal elements of it. The invaded red corpuscles grow paler and paler in proportion as the parasite develops, and it is probable that no anemia, except that resulting from hemorrhage, can be better explained than palustral anemia."

Professor Bouchard writes: "One thing seems certain to me, viz., it is that bacteria act in animals by the matters they secrete, and further, the fever of the infectious disease is toxic; it is provoked by diastases, such as that studied by Roux; by ptomaines, such as the amidaleine of Brieger."

A recent private letter from Dr. A. Laveran, of Paris, says:

"*My Dear Confrere:*—I thank you very sincerely for your article, which I have read with a great deal of interest. I think with you, that palustral infection has its place in water, and I am happy to see your new work which sustains that view. One finds, moreover, in the water of palustral localities, organisms, very closely resembling the hematozoa of palustræ, but no one has yet succeeded in proving the question, as to the form under which hematozoa is to be found in the medium outside of it.

Be pleased to accept, my dear confrere, this expression of my devoted sentiments."

I have made some unavoidable digressions in discussing the phase of this subject in which I am deeply interested, and have taken the liberty of quoting liberally from Laveran and others in the foregoing pages. It is within the easy province of every medical man to make researches on this question, unprejudiced by any theory, and as a practical means of testing the drinking water factor in paludal infection of the system. Let every physician and citizen in infected regions resolve to observe and advise the drinking of carefully stored storm water in cisterns above ground, and the boiling of land water, where such must by force of circumstances be used for potation.

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1. "Some Practical Observations on So-called Malaria being a Waterborne Disease." By W. H. Daly, M.D. Read before the American Climatological Association in Washington, May 29, 1894. Published in the Medical Record, Sept. 15, 1894. This essay called forth the following articles in discussion, pro and con:

2. "Is Malaria a Waterborne Disease?" By Frank P. Norbury, M.D. Medical Record, Oct. 6, 1894.

3. "Some Practical Observations on Malaria Not Due to Drinking Well or Surface Water." By Joseph S. Healy, M.D. Medical Record, Oct. 13, 1894.

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ON THE VALUE OF KINESITHERAPY IN GYNECOLOGIC PRACTICE.

Read before the Gynecological Society of Boston.

BY RICH HOGNER, M.D.

BOSTON, MASS.

The Swedish medical gymnastic was founded, developed and perfected, as is well known, in the beginning of this century by P. H. Ling, and to-day there is not a civilized country where its fame has not spread and where some medical gymnast has not located.

That the Swedish medical gymnastic is firmly grounded on scientific principles is best shown by the fact that regular physicians are beginning to take it up, as a specialty, more and more, and that the public has confidence in its ability in spite of the damaging influence of the so-called massagists, hardly half taught or self-made medical gymnasts, not to mention ignorant male and female administrators of baths, who do all that is possible to disgrace the name and drag down the method. But just as "wise old crones" and midwives have not been able to injure the scientific practice of gynecology and obstetrics, so have their counterparts in the field of medical gymnastics been unable to drag down the kinesitherapy. The labor of these impostors has created a wide gulf between the quack and regular medical gymnast, a gulf which will be widened still more in proportion as physicians study and themselves practice the manual treatment of diseases.

Swedish medical gymnastics reach the desired results by means of active and passive movements, increasing or decreasing the metabolism, regulating resorption in any given part of the body and by in-

creasing the general tone. Kneading and other manipulations quicken a sluggish circulation, increase the blood supply and local nutrition, and by this means tone up the vessels, nerves, muscles and elastic tissues. In case of great nervous irritability it has a tranquillizing effect. Its proper practice requires an intelligent knowledge of anatomy and physiology, and for the best results a thorough medical education. There are, however, comparatively few physicians who devote themselves exclusively to kinesitherapy, but, on the other hand, there are many skilful, experienced medical gymnasts (especially in Sweden, where they must go through a three years' course of study), whose great daily experience is productive of many facts applicable to new fields of investigation. The good results obtained by these medical gymnasts in treating diseases which many physicians have looked upon as of the *noli me tangere* sort have, therefore, been doubtfully received in the beginning and indeed reasoned away entirely, until some physician of known authority has been sufficiently unprejudiced to test the matter himself and find the cause—previously shrouded in darkness—for the wonderful cures which have, in fact, been made by many medical gymnasts; similarly has been the experience of kinesitherapy in gynecologic practice.

As long ago as 1859, a Swedish officer and medical gymnast by the name of Thure Brandt, employed Swedish medical gymnastics in the treatment of the so-called female diseases, but not till 1877 had this empiric perfected his method. For many years the fame of Brandt's cures had spread abroad, but physicians and gynecologists had remained, as a rule, indifferent to it until Dr. Profanter's initiative. In 1886, Professor Schultze invited Brandt to give a public test of his method at the University Clinic at Jena, and we know of Brandt's brilliant victory. Since that time, physicians from all parts of the world have flocked to Stockholm to learn the method from its master.

The full scientific explanation of Brandt's successful cures first appeared in 1888 through the researches of Professor v. Preuschen[1] upon the pelvic muscles, and the influence exerted by contractions of the levator ani upon the axial position of the uterus and upon the vaginal canal.

I will not go into the details of Brandt's method, as it is not long since I have presented it in a paper read before the Massachusetts Medical Society, but will simply remind you that this method does not confine itself to bimanual massage and so-called "liftings of the uterus," with subsequent powerful adductive movements of the lower limbs, nerve pressure, etc., but first and last in every *séance* are given regular gymnastic movements that lead the blood to or from the abdominal organs, and which are determined by careful calculation for each case. I will quote from the above mentioned paper, what I said about the technique and action of the valuable *uterus liftings*, as this is the more difficult to perform and understand. A practical assistant is required and the treatment is only used, as a rule, when the uterus lies forward or, at least, is so placed for the time being. The patient assumes a half-lying position on a gymnastic bench. The physician sits at the left side, passes the left hand under the patient's knee and enters the vagina; places the womb in the normal position, if necessary, and while keeping the left forefinger on the cervix presses it gently backward and upward with this finger; at the same time he lays the outside hand on the middle of the abdomen, in a direction from above downward, pushes the skin gently downward so it does not become rigid but can be pushed upward again when the womb is lifted; the hand rests on the forward, upper surface of the womb, thus showing where it is to be found. The assistant has in the meantime so placed himself that he can with his hands held together in a half supine position, parallel to the abdominal wall, press into the pelvis on the anterior side of the womb with the finger tips down to the os internum; there, if possible, he should meet the physician's forefinger. Without losing his hold around the uterus, the assistant lifts it up, giving delicate, light, vibratory motions to the hands, so that he seems to try to lift the cervix or orificium externum lengthwise of the os sacrum's curvature from below, in the median line, upward, so that the fundus uteri follows, though not to the same extent. When at the beginning of the movement the uterus is in a more or less upright ante-position, it can be placed finally in a more horizontal one, with cervix in prolapsus-uteri, even as high as the promontorium, the fundus leaning forward. The uterus is thus lifted more or less high, is held in this position a few seconds, or even a moment, and lowered by the assistant more or less rapidly, according to the desired effect. The movement is repeated in this way three times at each *séance*. The physician always assures himself that the womb lies in proper position forward at the close of the movement. If this should not be the case the uterus is correctly placed before and after each new lifting. If the uterus liftings are not properly done they can hurt the patient very much. After the liftings some strong movements are always given as before stated for the adductores femorum, during which the levator ani contracts, as has been proven by experience.

Brandt's position of the "inner hand." The forefinger in vagina (sometimes in the rectum), and the unused fingers of the hand perfectly straight and firmly together, resting closely against the body, and taking, together with the palm, the shape nearly of the inner gluteal region; the thumb is held a little forward of the os symphysis. When necessary, Brandt has conbined the thumb in vagina and the forefinger in the rectum.

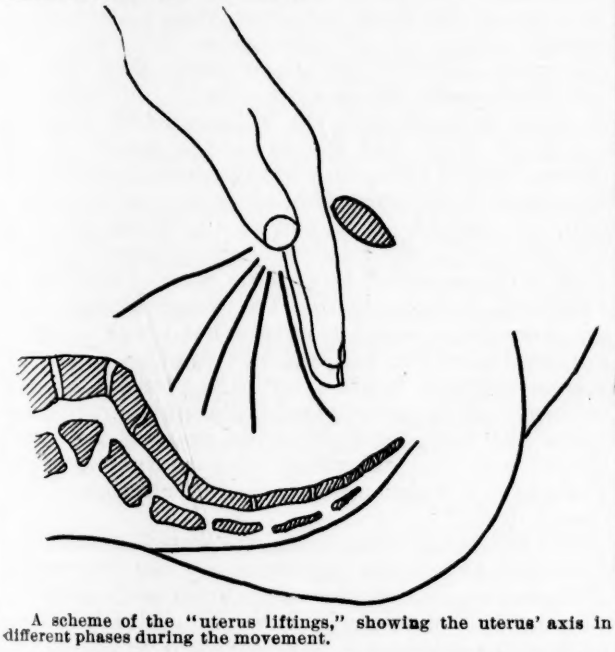
[1] Die Heilung des Vorfalles der Gebärmutter dureh Gymnastik der Beckenmuskulatur und Methodische Uterushebung. Centralbl. f. Gynäk., 1888.

Since Ziegenspeck, and after him v. Preuschen, have drawn attention to what was unsuspected before, the significance of the levator ani in holding the uterus within the pelvis or, in other words, in preventing prolapsus, it may be allowable to enter more specially on its anatomy. The muscle levator ani punctum fixum is, as we know, the forward half of the little pelvis as far as the spinæ ischii; its punctum mobile os coccygis. In the female body the anterior fibers of the levator ani extend down the sides of the vagina; through this muscular base or levator ani the three pelvic canals must push their way down. A contraction of the levator ani has, therefore, says Ziegenspeck, as consequences:

1. A crowding together of these canals from back to front.

2. A change of position of the canals from this point forward and upward toward symphysis.

3. A disturbance through the distance from the spinal line, as well for the portio vaginalis as for the vaginal opening into the diaphragma pelvis which otherwise lies in this line.



A scheme of the "uterus liftings," showing the uterus' axis in different phases during the movement.

In contraction, then, of the levator ani, the vagina becomes really bent with the angle backward, so that part of the vagina which is over the diaphragma pelvis takes a nearly horizontal position when the patient is standing. Both the increase of distance from the spinal line and the changed position of the vagina secure the portio's position in the pelvis.

Professor v. Preuschen continues: The levator ani has a double function; it decreases the width of the vagina and, by causing a horizontal bending, places the upper portion of the vagina in a condition to bear up the portio; it interposes a barrier for the down-sinking portio. Whether this barrier can really hinder the descensus of the portio depends, on the other hand, on its relation to the position of the uterus. If the uterus is retroverted, the weight of the bowels drives the portio forward in the direction which comes finally to that point where the horizontal direction of the vagina merges into a downward slant. The first strong pressure from the bowels can then cause prolapsus. It is quite different if the uterus is anteverted and meets the horizontal portio at an acute angle opening forward. As long as this position exists, or as long as the uterus returns to it, and after every change of position, pressure of the bowels brings the portio only more firmly against the barrier formed by levator ani and prevents prolapsus. Now as the uterus in nearly every case of prolapsus takes a retroverted position, the secondary aim of the treatment is to overcome the retroversion and convert it into an anteversion. This indication is filled by the methodical uterus liftings after Brandt's method.

Furthermore: Schultze has shown that the causes of retroversion can for the most part be traced to abnormal fixations depending on inflammatory processes in the cellular tissues of the pelvis, and Freund and Ziegenspeck have shown that it consists mostly of a mass of tissue and muscular fiber, the scarred retractions of the tissues between the bladder and the uterus. Any attempt to bring the uterus into anteversion therefore, tends to stretch the abnormal fixations between the uterus and bladder, as the portio again takes its normal position with relation to the spinal line. This is in the most perfect manner, induced by the "uterus liftings" of Thure Brandt.

The gynecologic kinesitherapy has its fixed indications and contra-indications. The indications are: Chronic or subacute inflammation in the cellular tissues of the pelvis and their secondary changes; exudation, para- and perimetritis and subsequent misplacements (retroflexions, anteversions and anteflexions; diminished mobility of the uterus; misplacements of the ovaries with twisting of the vessels and nerves, adhesions, etc.); oöphoritis and paraoöphoritis; chronic metritis (sometimes endometritis), cervical catarrh, descensus and prolapsus uteri, vagino-cysto-rectocele, swelling of the tubes, hematocele, pericystitis and periproctitis with secondary weakness in the sphincter vesicæ and ani.

As contra-indications are stated: Malignant tumors, acute pelvic peritonitis, newly established inflammations in general, salpingitis, gonorrheal, purulent, tubercular and septic processes in the uterus and its adnexions, tubal pregnancy and finally excessive fat in the abdominal wall.

A regular pregnancy is not always to be considered as a contra-indication and Brandt himself, with his marvelous experience, has many times prevented miscarriages by lifting movements, immediately relieving labor pains and hemorrhage; usually after the first or second day he follows the treatment by gentle massage or short tangential strokes from fundus downward to the isthmus.

In spite of the fact that gynecologic kinesitherapy is a laborious method, fatiguing to the physician and patient, requiring daily seances for weeks or even months, it is practiced more and more by European physicians and clinical gynecologists besides, whose time, mind, and strength surely would not be sufficient to devote to unnecessary and fatiguing manipulations. The fact that such men as Schultze, Profanter, Schauta, Dührssen, v. Preuschen, Jentzer, Stapher and others, introduce kinesitherapy into their great operative gynecologic practice, shows best what worth they place on Thure Brandt's method.

It would be too much to enumerate here all the cases of successful cures which have been published in the gynecologic journals of the world up to date, or to compute statistics; I will only state that the latest presentation of the subject was made at the

as t International Medical Congress at Rome by Professor Jentzer, of Geneva, when among others he submitted a brief statistical account of 145 cases treated by himself personally, namely:

1. Two cases of prolapsus with lengthening of collum uteri. Age, 23 and 29 years. Treatment and cure from twenty-three to thirty-five days. No relapse. In the second case the uterus fell again into retroflexion.

2. Fifty-seven cases of partial involution after confinement or miscarriage, without retention of placenta. All cured after twelve days to two months.

3. Twenty-two cases of parametritis, one of which was the width of two fingers below the navel. All healed after two to six months treatment.

4. Nineteen retroversions. Cure in two cases only. As he saw Brandt had very fine results in this class of cases he explained his lack of success by his inexperience in Brandt's technique. He adds that in fifteen of the cases, retroversion was complicated with adhesions and the massage caused by lessening the latter a considerable subjective improvement, in spite of the continued unfavorable position.

5. Eleven cases of weakness in the neck of the bladder after several confinements. Cure in eight cases. Treatment one to four weeks. One case improved. Two cases unchanged.

6. Seven cases of hydrosalpinx. Cure in four cases. The other three unchanged. Two of the latter have been cured by Dr. Vuillet by vaginal puncture.

7. Menorrhagia in twenty-seven cases, nearly all in connection with the climacteric period, in eight cases of which "curettage" was resorted to, but without result. Cure in twenty-three cases after one to three months; two cases improved; two unchanged.

The above statistics are almost a perfect type of all those given by different physicians of their experience with Thure Brandt's method, and my own experience corresponds to this entirely. As for certain retroversions which *quod situm* show results with little encouragement, but, *quod salutem subjectivam* are very satisfactory, they depend, as already above named, most frequently on the drawing together of a scar after inflammation in the tissues between the bladder and uterus, but also not infrequently on a relaxation, a lengthening of the ligamenta Douglassi. To treat these changes of position with pessaries or operations, with medium fixation in the opposite direction, fills, it seems to me, *indicatio causalis* just about as often as a man could fix the "head erect" in torticollis with bandages or "an operation on the other side;" moreover it should be remembered that as Ziegenspeck demonstrated, even the decreased mobility of the uterus is a form of displacement.

It may look very well to be sure, in such a case as retroversion, to make an incision of an inch in length in the abdominal wall, draw up the ligamenta rotunda with sutures and in this way fix the fundus uteri forward; but the fundus does not constitute the whole uterus and it is not certain that the cervix, isthmus and the lower portion of the uterus lie any more normally after such an operation because the fundus does—so much more uncertain, since we know that the ligamenta rotunda signifies little to the uterus in maintaining its position; so little in fact, that they can be loose and sinuous as the intestines after, for example, repeated confinements and still the uterus will lie anteverted. Turn the fundus as much as you will and let the cicatrice drawing between the bladder and the uterus remain, then the mobility of the organ will be abnormally diminished and will remain.

Statistics show, it is true, that pain ceases after such an operation but how long? Here they most frequently maintain silence. It is comparatively seldom that displacement itself needs to be attacked, just as in case of chills it is not the shivering one must deal with, but as a rule it is the cause to the secondary displacement which must first be treated. A proof of this lies in the fact that many displacements exist without causing the least inconvenience to the patient, and why? Because the cause of the abnormal position of the uterus is too slight to occasion pain, but sufficient to cause displacement. This is why many retroversions do not cease through treatment a la Brandt, because the ligamenta Douglassi, which are important in the normal position of the uterus forward, have become so lengthened and relaxed that they can not be made to resume their elasticity and normal length, but pains and many other symptoms disappear, nevertheless, because the kinesitherapy could take away the *causa morbi*, *i. e.*, infiltrations or cicatrice contractions. On the other hand, it must be confessed, there are displacements which are the direct cause of pain, etc., which cease almost simultaneously on the correction of false position. I recall, for example, a patient in the third month of pregnancy who was relieved of many inconveniences by a replacement of the uterus which was leaning backward, pressing against the promontorium; also another case, a severe dysmenorrhea which suddenly appeared after two and one-half days painless catamenia, and two hours after eating fried pork and cabbage, which caused great indigestion, cramps and pains with augmented abdominal pressure and which tipped over the neutrally lying uterus; this was changed by replacement, *i. e.*, after a return of free circulation.

The causes of displacement are manifold, and their treatment at present, unfortunately, not less varied. If for one reason or other we can not treat them pathogenetically then it must be symptomatically. Then we must have recourse to pessaries or in preference, operative methods; but this must not be the case in and out of season, but with great discrimination, and not as a rule but as an exception. In a gynecologic practice covering nearly fifteen years, I have seldom used pessaries and then when I did not possess full confidence in Thure Brandt's method; since then the pessary has been laid entirely aside.

To exemplify the value of kinesitherapy still further, the following case of dysmenorrhea yet under treatment may be cited:

Mrs. S. A., 27 years old, married three years, without children, was seized with abdominal pains five years ago, followed by severe catamenia, which so increased from time to time, that during the past year or two she has been compelled to lie in bed five days each month, because of "almost unbearable suffering." On examination two weeks after the last menstrual period, which was as usual, excessively painful, the uterus was found somewhat enlarged, hard and tender, with decreased mobility backward, also in a half retroverted position, the left ovary also somewhat enlarged and slightly tender to the touch. No symptoms from the bladder. The patient had, it may be added, been attended two years by a good gynecologist without result. She was now treated with uterine massage and "uterus liftings," also

strong movements leading the blood from the abdomen. Fourteen days after the beginning of the treatment the menses came, perfectly painless, so that the patient only discovered her condition by accident, "scarcely believing her eyes." The treatment has been continued without interruption and will go on until the uterus becomes as free and mobile as desirable.

Next to a sharp instrument there is surely no gynecologic method so effective, so universally available and yet so reliable as kinesitherapy. When one has become master of the method he can not do harm by its use and all who have tested the methods, choosing their cases with discrimination, agree in their opinion that gynecologic kinesitherapy is of the same benefit as massage and medical gymnastics in their place. Yet it is true that all these diseases are not cured by kinesitherapy. In gynecologic practice it has its own great special field, just as the knife, which it should never over-reach. It may be added that kinesitherapy may be used very often with our other gynecologic methods.

If gynecologic kinesitherapy is used only according to its indications and then only when a thorough knowledge of the method shows it to be the surest and swifest means to the desired end and when it is applied by physicians only, as a rule, who are gynecologists, then it is certain that even the most prejudiced physicians would be convinced of its advantages. One and all who have, after making themselves competent, tested it, gladly coincide with this opinion.

Professor Jentzer's closing words to the above mentioned paper were: "We call upon our colleagues to exert their influence to have this new therapeutic method introduced into the course of instruction at universities;" though I think at present one must "make haste slowly," and be better content with the admonition to gynecologic specialists not to delay acquainting themselves with a method which has been tested in at least 10,000 cases in different countries, and has never yet been known to injure, but instead, it has only improved and most frequently healed the sick.

EXPERIENCE OF AN AMERICAN PHYSICIAN IN MEXICO.

BY D. H. GALLOWAY, M.D.
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In March, 1893, I received the appointment of assistant surgeon in the service of the Mexican Central Railroad. This road extends from El Paso, Texas, to the City of Mexico, a distance of about twelve hundred miles. The main line and branches make about two thousand miles of road operated by this company. Every employe contributes a certain portion of his wages to the support of the medical department. This consists of a chief surgeon, with headquarters at Aguascalientes, and ten assistant surgeons. There are four hospitals—at Chihuahua, Aguascalientes, the City of Mexico and Tampico. An assistant surgeon is assigned to each, and the others are stationed at intervals along the road. Cases that can be moved and that require hospital treatment are sent to the hospital most convenient to the scene of accident. Should patients desire it, they may be treated in their own homes, but in that case the department furnishes only medical and surgical care and medicine. In case of contagious diseases the company furnishes a house, nurse and everything needful.

I went to Aguascalientes, a city of 40,000 inhabitants, about three hundred and fifty miles north of the city of Mexico and twenty-five hundred miles from Chicago. I remained in the hospital there about six weeks and was then ordered to Silao, a city of 20,000 inhabitants, 126 miles farther south.

The difference between Mexico and the United States is, in many ways, very striking, but in nothing more so than in medical, and particularly in surgical, matters. I occasionally met the Mexican doctors in consultation and at operations, and very few made any pretense of keeping an appointment on time. I met—or tried to meet—one doctor by appointment eight or ten times, and on *no* occasion did he arrive within an hour of the time appointed. On one occasion I completed a small operation, cleaned my instruments and was leaving the house when he arrived. The Mexican, under such circumstances, never expresses surprise or disappointment. He did not appear to think that any apology or explanation was due me for his tardiness or due him for my having proceeded without him. Mexico certainly deserves the name of the Land of "Poco Tiempo" (in a little time—after awhile).

Chloroform is used almost exclusively, and I never heard of a death from its use. They administer it from a little cone which is made of a piece of stiff paper and filled with cotton. This cone is such as the grocer extemporizes in which to dispense a few cents worth of spice, and is three or four inches long and an inch to an inch and a half across the large end. In this way they will use an ounce to an ounce and a half in getting the patient asleep, but the process is so wasteful that the patient gets but little.

In 1839 a law was passed requiring all applicants for the privilege of practicing medicine and surgery, to pass an examination in medicine conducted in the French and Spanish languages. This does not apply to graduates of Mexican medical schools. This law is still enforced in some of the States of the Republic. There are few medical works in Spanish, and, in fact, not many scientific books of any kind in that language. Therefore the schools use books in French. All well educated Mexicans speak French, and just now there is a strong movement toward the study of English. The Spanish language is also deficient in business terms and so it is necessary to draw on the vocabulary of other languages. English is the great source of supply for this purpose. These words must be made to conform to Spanish rules of spelling and pronunciation, and where any change is made in the former it is always an improvement as that must be "fonetic."

But to return to the matter of registration: There is a possibility of becoming registered in some States without the ordeal of an examination. To accomplish this, it is necessary to proceed as follows: A letter must first be obtained from the President of the college issuing the diploma, stating that the applicant is the lawful owner of the diploma presented. This letter, with the diploma, is to be sent to the Secretary of the State Board of Health. He will make a certificate which will state that the college is a regularly chartered medical institution recognized by the State Board of Health, and that certificates are issued to its graduates on the diploma. This certificate is attached to the diploma and it all goes to the Secretary of State of the commonwealth. That individual certifies that the signature to the

previous document is that of the Secretary of the State Board of Health, and that his official statements are entitled to full faith and credit. This is attached to the others and goes to the Governor. He certifies that the accompanying document is signed by the Secretary of State of the commonwealth and that full faith and credit are due his official attestations. The Governor's certificate is added to the collection and it is then taken to the Secretary of State of the United States. This officer certifies that the document hereunto attached is under the seal of the State of ———, and is entitled to full faith and credit. You will notice that each man vouches for the *official* statements of the other, and leaves us in doubt as to whether his private statements are entitled to the same faith and credit.

The package of documents is forwarded to the Mexican Legation, and the Envoy Extraordinary and Minister Plenipotentiary of the United States of Mexico in Washington, certifies that the foregoing signature is that of the Secretary of State of the United States, and the seal that of the department of which he is in charge. Each document bears a gold seal, except that of the Secretary of State of the United States, which is provided with a red seal and blue ribbon. Thus reinforced, the diploma is ready to go to Mexico. Thus far there have been no charges except those of the express company which transports it from place to place. In the City of Mexico it is presented—together with $10.10 in document stamps—to the Secretario de Relacionas Internes. He certifies that the foregoing signature is that of the Mexican Minister in Washington. The next move is to the Governor of the State in which the applicant expects to practice. He will add—or perhaps he will not—his signature to the illustrious list. The next and last call is on the mayor of the city or town, and possibly this call will have to be repeated once a month and a license fee of $1 or $2 paid.

The fortunate—or unfortunate—individual who has thus prepared himself to practice medicine and surgery is now ready for a call. Should two of his *clientele* get into a fight and one of them have his femoral artery cut, the doctor may be called in, in which case he will—if he is law abiding—wait for the arrival of the mayor or his representative. If that officer arrives in time—and it is not likely that he will—the doctor will receive permission to tie the artery. If the patient is dead, that will not be necessary and the doctor will not have soiled his hands or his instruments. There is in Mexico a law which forbids any one—even a surgeon—interfering with an injured person until the arrival of some representative of the civil authorities. There is, however, a special clause in the charter of the railroad company which makes it lawful for the company surgeon to attend to employes of the road without waiting for such formality. Hence the first inquiry the doctor makes, when called to a case, is: "Is this man's name on the pay roll of the company?" If the answer is in the negative, he returns to his office or treats the patient on his own responsibility and at his own peril. This law dates back so far that its origin is lost in the mist of many decades. It is acknowledged by all to be a bad law, but, as the mayor said: "We are here to enforce not to criticise the law." I will say, however, that while I ignored this provision of the law, I was assured by both the Governor and Mayor of immunity from molestation. They stipulated that I should not move the patient from the position in which he had been found.

The cost of a funeral is not great. If the body is that of an American tramp or an unknown or unclaimed native, the cost of burial will be $5.75. A coffin will cost $2.50, a permit to inter in second yard, second class, will be $1.25, four cargadores, for carrying the body to the cemetery, $2. A more pretentious burial costs about $31. Coffin $16, a permit first yard, first class, $5, and $8 for a monument on which is inscribed name, age and place of birth. This secures undisturbed possession of the ground for three, five or seven years. At the end of that time the grave-digger will exhume what is left of the skeleton, the larger bones will be gathered together and thrown into a vault prepared for that purpose. The smaller bones will go with the sand and clay to help cover up the next occupant of that spot. In Guanajuato there is a vault which contains the remains of more than one hundred and twenty thousand human beings. The bones are thrown in here through a kind of a chute and then piled up without regard to any order. The pile of bones is 250 feet long, 6½ feet wide and 12 feet high. The entire vault is 450 feet long. Three sides of the cemetery are lined with tiers of vaults, each large enough for one coffin. At the end of five years these are emptied. Sometimes the body is found to be mummified. In this condition the remains of an adult weigh but about ten pounds. A number of these mummies are standing along the wall in the unoccupied portion of the vault. It is said that persons sometimes recognize the remains of friends in this ghastly gathering. By paying $100, a grave or vault may be secured in perpetuity, but this is not usually done. The scenes in this "Panteon" ought to make a cremationist of every visitor.

Silao is situated at an altitude of nearly six thousand feet and has a magnificent climate. In the shade, the temperature ranges from 70 to 80 degrees F., and at night from 60 to 70 degrees. The rainy season lasts from May to September. During that time it rains nearly every day. The shower usually lasts an hour or less and it immediately clears off. In eighteen months there were but three "cloudy" days. Silao probably has the finest climate in Mexico, though that of Guadalajara is very similar. Drinking water is kept in porous earthenware jars and a good jar will keep the contents about 20 degrees below the temperature of the surrounding atmosphere. I placed a thermometer on the ground in the sun and it registered 127 degrees F.; moving it four inches, into the shade of a building the mercury went down to 81 degrees F., and in a jar of water it dropped to 61 degrees F. This water is more palatable than ice water.

For several years typhus fever has raged all over the table land of Mexico but has now about disappeared. Smallpox is endemic in almost all large towns and cities. The people think but little of it, and it is quite common to see children on the street in all stages of the disease. Malaria is common but ordinarily yields readily to quinin. There are some cases of the pernicious variety. Next to typhus, pneumonia is the most dreaded of diseases. A very large percentage of cases are fatal and that within forty-eight hours.

Doctors are almost never called to attend in childbirth. Midwives look after this, and blindness from

gonorrheal ophthalmia, is common. The poorer classes are indescribably filthy and consequently skin diseases abound. Many of them never bathe. The shoes of these poor people consist of a piece of sole leather fastened to the foot by means of straps. Their heels crack and these cracks sometimes become infested with bedbugs.

Urticaria is common among the Americans here, but they can not be charged with personal uncleanliness. Nasal catarrh is all but universal among the Americans. Pulmonary tuberculosis is not common, and I believe this would be an excellent climate for consumptives if sent here before the disease had made too great progress. Chronic bronchitis is unknown and cases arriving are relieved immediately and soon permanently cured.

Venereal diseases are fearfully prevalent. A Chicago firm is doing a rushing business "curing" syphilis in three days at $150 per cure. They give twenty-five pills which are guaranteed to contain no mercury. The pills are a drastic cathartic and cause emesis and salivation, the latter so copious that the patient lies with his head on the edge of the bed and allows the saliva to run from his mouth into a vessel. The company claim that every "sore" about the genitals is syphilitic, so their marvelous "cures" are readily accounted for. There have been several cases of insanity reported as a result of this treatment.

A great many people have cancer and other tumors, as might be expected when they are so afraid of the surgeon's knife. The Mexicans have a sure cure for cancer. I have never seen it tried. A live toad is cut open and bound upon the tumor. "In three or four days the cancer comes out, roots and all." For brain fever they similarly cut open a pigeon and apply it to the cranium. There are a few cases of leprosy, to which the authorities pay no attention whatever.

The most common injuries to railroad men are the crushing of fingers and hands between the bumpers of freight cars. These wounds almost always suppurate. Injuries to the hands of machinists almost never suppurate. Their hands are covered with grease and oil from the machinery, and if, when injured, they are bound up without washing they will usually heal by first intention.

If there is to be a surgical operation at the home of a Mexican, all the friends and neighbors flock in to see it. That is, as many of them as the size of the room will admit. They consider the operation as a legitimate entertainment. This is sometimes inconvenient on account of the crowding, and at other times rather disagreeable, because they feel it their duty to interfere when they think the performance has gone far enough. It may be necessary to leave the doors open to the street, if this is the only source of light, as is often the case. These people may not be able to read or write or count to ten, yet they assume to dictate when and where and how much a surgeon shall cut. But why not? The Illinois Humane Society insists on being allowed to assume supervision over operations on animals, conducted by educated surgeons, and all the members of this society can, presumably, read and write and count above ten. Surely the former case is not more absurd than the latter. On one occasion three of us were actually attacked by members of a mob and had to defend ourselves with one hand, so to speak, and operate with the other.

There are many hot springs in Mexico. There is one about four miles from Silao, the water of which contains much sulphuretted hydrogen and has a temperature of 120 degrees F. There are bathrooms maintained here and many people go out from Silao to bathe. The bather will remain—I could not—in the water for five or ten minutes, then come out, wrap in a sheet and lie down. In a few minutes profuse sweating begins which lasts ten or fifteen minutes. At Amanjilla are a number of boiling springs. Owing to the altitude, the water boils at 198.5 degrees F. This water seems to be very pure, apparently containing almost nothing in solution. There is a group of hot springs at Aguascalientes, the temperature in the different ones ranging from 84 to 104 degrees F. These, and some still more famous at Santa Rosalie, are believed by the people to have great medicinal properties. There are still others near the City of Mexico. Some of these places will no doubt become famous resorts in the future.

In a country where one may in an hour pass from the temperate climate of a high altitude to a tropical climate at the sea level, some curious effects are noticed. As one goes down the mountains toward the coast, nasal and pharyngeal catarrh immediately disappears. It comes back slowly on returning to the tableland after a few weeks' stay at sea level.

Pneumonia on the coast is not feared and I could not find that it is ever fatal there. Yellow fever remains the year round at Vera Cruz, but is much worse in summer than in winter. The disease does not invade the mountains, but the people believe that it is fatal to remove a patient suffering with the disease to the elevated table land. The lowland fevers are much dreaded by all who live at a high altitude. I am inclined to think that these fevers could be largely, if not entirely, prevented by sterilization of food and water. I think the name, bad air, (malaria), should be changed to bad water. There are comparatively few springs and the drinking water comes from shallow wells, rivers, or even stagnant pools.

Mexico is essentially a volcanic country and there are a great many places affording grand and beautiful scenery. Probably no railroad on this continent affords more magnificent scenery than that to be seen on the Tampico branch of the Mexican Central. No one making a trip to Mexico should fail to see this wonderful panorama. Nature has here thrown up gigantic mountains and then as if ashamed of her roughness has clothed them to their very top with an impenetrable forest of trees and shrubs and vines. Millions of brilliant tropical flowers of a thousand different varieties, enchant the beholder. Any rock too rugged or bare to support a tree or shrub is covered with a smooth mantle of vines. In many places white flowering vines covered the rocks and trees in such abundance as to look, in the gathering twilight, like drifted snow. On one side of the train you may look down almost perpendicularly 1,500 feet to the river, the water of which is as blue as indigo. On the other side, the same distance up to the forest clad mountain tops. Here you may see at a glance coffee, vanilla, bananas, mahogany, rubber, orange, lemon, sugar cane, and an infinite variety of other trees and vines, making a jungle so dense that a man could scarcely penetrate ten feet from the road. If the fevers of this country can be prevented or overcome, one need look no further for paradise. Here the beggar—the most prominent feature of the high

country landscape—disappears and the thief has gone to keep him company. Here the maximum return is to be had for the minimum of labor. Here nature is kind. Here all creatures—except the plasmodium malariæ and the mosquito, appear to dwell together in harmony.

THE IMPORTANCE OF URINALYSIS IN DIAGNOSIS.

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Elimination of the worn-out products of tissue change and the unappropriated parts of the food takes place from the body in the expired air, skin, feces and urine. The oxidized carbon of the tissues by the lungs and cutaneous surface, the insoluble *débris* of the food excreted by the intestines, while the urine contains essentially the nitrogenous and other soluble products.

The urine containing the watery constituents of the blood, with some dissolved salts, is one of the most important excretions from the body, and with our present knowledge of urinalysis much can be learned by its examination. The changes which this secretion undergoes in health and disease have been studied since the earliest history of medicine. Hippocrates taught the effects of food and drink upon this excretion, its variation in color, odor and transparency, attributing their changes to disease of the urinary organs. Galen simply added to this knowledge the variations of urine in health.

It was not until after the middle of the seventeenth century that any attention was paid to the chemic analysis of this important excretion; prior to that time attention was only given to its physical characteristics, as its appearance, etc.

Cartungo in 1770 was the first to find albumen; Cruikshanks in 1798 pointed out the connection between its presence in urine and dropsy; still the relation of albuminuria to kidney disease was not appreciated until it was proved by Bright in 1827.

Willis discovered sugar, and Rouelle in 1773 urea. To Steele and Wallaston is due the earliest knowledge of the composition of urinary calculi.

Since these important discoveries very many others have been made, as well as the improved modes for examinations. They have also been so simplified that at present every physician and surgeon can have the apparatus and chemicals in his office and make the necessary chemic examination. But when the urine is pathologic, that is, containing albumen, sugar, uric acid and phosphates in excess, or there is found evidence of pus or blood, a careful microscopic examination should be made by one of experience to ascertain the condition of the urinary organs, and, if possible, to determine the origin of the pathologic product.

If physicians and surgeons would avail themselves of this important aid to diagnosis, much more good could be accomplished to their patients, many a life spared and thousands of dollars saved life insurance companies.

As urinalysis requires but a few moments of time, and the results from it are so positive and true, we feel that no opinion of a case of any importance should be given without there having been made a careful examination of the urine.

Many a case of Bright's disease might be prevented, if, when the first symptoms of the disease manifest themselves, a careful examination of the urine be made and the proper treatment and diet prescribed.

Three years ago a young man at the age of 25 years consulted me, when, upon examination, I found evidence of incipient Bright's disease. There was a small amount of albumen in his urine, with some tube casts and epithelium present. His diet had consisted largely of nitrogenous food, as beefsteak and eggs. A change in his diet to a more liberal use of vegetables and fruits, as well as the cereals, with some medicine to regulate his bowels and thereby relieve his over-worked kidneys, has wonderfully improved his condition, and at last examination, about six weeks ago, his urine was free from excess of albumen or any evidence of disease of kidneys.

Many more cases of the kind might be given, as where there is sugar, uric acid or phosphates in excess in the urine, when, if detected early and their cause as far as possible removed, much good could be accomplished, lives prolonged, and cures very often performed.

When pus is suspected to be present in the urine, the specimen should be examined with the microscope, to ascertain which part of the urinary tract it is from, and, with our present knowledge, this can be done, when the proper treatment can be given. We should not make the mistake a noted physician in one of our large cities did quite recently, that of removing a normal kidney from a man who had suffered with pain in his loin, had frequent chills and passed pus with his urine. A *post-mortem* in this case a few days later revealed the fact that he had had a chronic cystitis. Had the urine in this man's case been properly examined, the diagnosis could have been made *ante* instead of *post-mortem*, this man's life spared to his family and the surgeon's reputation in that community preserved.

When the urine is thought to contain blood, the microscope alone will aid us as to its origin. We have a damage case now in our courts of a man who was injured in a railroad wreck, who at times passes urine that looks as though it contained blood. I had it examined by a microscopist, and he claimed it did not contain blood, as there were no blood corpuscles to be found. I sent him another specimen, with the word that he was certainly mistaken, for nothing else would give it such an appearance but blood. As this case had symptoms of having a floating kidney from traumatism, I was very anxious to know where this blood came from and to trace it to his kidney if possible. His second report revealed no blood corpuscles in the specimen of urine, but that the specimen contained hematine in large quantities, which leaves us to infer, with a considerable degree of certainty, that the blood in this case came from his kidney. The action of the urine on the blood evidently destroyed the corpuscles, leaving the hematine in solution, when if it had been from the bladder or urethra, the blood corpuscles would have been present.

In every case where ether is to be given as an anesthetic, a careful examination of the urine should first be made to determine the condition of the kidneys, when if they show the least symptom of disease, it should not be given, for it is known to exert an unfavorable influence upon them. Many cases of transitory albuminuria are noticed after

ether has been administered, proving that it does affect the kidneys. Then when the kidneys are in an advanced stage of disease, the ether is likely to cause a congestion of the organs and thereby prevent the elimination of urine, when death will surely be the result.

The following case made a lasting impression on my mind—that of a young lady, who had a large ovarian cyst, that I was called by another physician to remove last April, and as there were no symptoms whatever of disease of her kidneys a urinalysis was not made. The operation was quickly done, requiring but a few moments. She took the ether as an anesthetic nicely and came out of its influence in a very short time. Four hours later, about two ounces of urine was drawn from her bladder, which was the last and only urine secreted by her. A *post-mortem* examination two days later revealed both her kidneys in an advanced stage of Bright's disease. The small part of the kidneys that had the appearance of having been physiologic before the operation, was in a highly congested condition. A urinalysis in this case would have undoubtedly shown a large amount of albumen, tube, casts, etc.

I am surprised that all life insurance companies do not require an examination of the urine, even for their small risks. I believe the time is not far distant when they will see the necessity and demand it in all cases. Only last February, one of our local physicians examined and passed a man for one thousand dollars ($1,000) where a urinalysis was not required, who was in an advanced stage of Bright's disease of the kidneys. At time of examination his urine contained over 30 per cent. of albumen. Six months later this man died from the effects of Bright's disease.

A simple chemic urinalysis would have saved the company this risk, and the physician the embarrassment of having passed such a subject.

45 W. Tuscarawas Street.

ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER. 1854–1894.

BY JOSEPH JONES, M.D., LL.D.
NEW ORLEANS, LA.

(*Continued from page 84.*)

CHAPTER III.

Case 2.—Yellow fever: high temperature, 106.5 degrees in axilla; suppression of urine; black vomit; recovery; treatment, ice water injections to rectum; application of ice to epigastrium; sulpho-carbolate of sodium internally. Dominick Polmisano; age 18; native of Italy. Has resided in New Orleans six years; residence St Anne Street near levee. Black hair, black eyes, dark complexion. Had a slight chill, followed by pain in the head and back and fever. Oct. 14, 1873. Entered Charity Hospital, October 16, at 4:30 P.M. At this time the patient had high fever; hot skin; face very red with great capillary congestion of the surface generally. Capillaries of conjunctivæ, greatly congested and of a yellowish tinge. Body emits an offensive smell. Breath very offensive. Tongue red at tip and edge and coated with light yellow fur shading into brown in the center and root of the tongue. Gums very red. Patient complains greatly of severe pains in heart, epigastrium, lumbar region and lower extremities. At 8 P.M., pulse 106; respiration 28; temperature of axilla 104 degrees.

℞. Potassii bromid . . . . . ℥ij
Liquid ammoniæ acetates . . . . . f℥iv.
Mix: Tablespoonful every four hours.

October 17, 8 A.M., pulse 100; respiration 28; temperature of axilla 106.5 degrees. Patient restless; complains of intense pain in the head, back, epigastrium and extremities. Nausea. Great congestion of capillaries of face and extremities. Skin presents the appearance of a purplish and scarlet rash. Conjunctiva injected and jaundiced. Tenderness upon pressure over epigastrium. Tip and edges of tongue red, coated in center; gums red. Has passed no urine since entering the hospital; when the catheter was introduced, only one fluid ounce of urine was drawn off, which upon chemic and microscopic examination was found to be loaded with albumen and bile, and casts of the tubuli uriniferi and excretory cells of the kidneys. To control the nausea, an ice bag was placed over the epigastrium. For the suppression of the urine, ice cold water was thrown up the rectum in large quantities. The injections of ice water had the desired effect, and caused the excretion and evacuation of a considerable amount of urine, which was heavily loaded with albumen and granular casts. In order to prevent septic changes in the black vomit if it should be formed, I ordered the following:

℞. Sodii, sulpho carbolate . . . . . ℥i

Divide into three parts, one part (20 grains) dissolved in water, every three hours. Brandy and carbonic acid water. Ice and milk, internally in small quantities at regular intervals. Small fragments of ice to be held in the mouth.

At 8 P.M., condition unchanged; jaundice and nausea and restlessness increasing; urinary excretion very scarce. Urine contains albumen, bile and granular casts and cells of tubuli uriniferi. Pulse 98; respiration 26; temperature of axilla 104.1 degrees. Continued ice bag to epigastrium; ice water enema; sodium sulpho-carbolate; iced milk and brandy diluted with carbonic acid water.

October 18, 4 A.M., the patient has begun to throw up black vomit. Continued to eject black vomit at short intervals quite freely until 8:30 A.M. The sulpho-carbolate of sodium appears to have exerted some beneficial effect, as the black vomit is of a brighter color than usual and contains coagula of blood.[50] At 8 A.M., pulse 82; respiration 28; temperature of axilla 102.1 degrees. The supervention of black vomit has been attended by a reduction of the temperature. Great congestion of peripheral capillaries. Jaundice; gums red; tip and edges of tongue very red, center and body of tongue coated with yellow and brownish-yellow fur. Blood oozed from tongue and gums. A small quantity, about half a fluid ounce, of urine drawn off by catheter. Urine loaded with albumen, casts and excretory cells; also contains bile. Patient delirious and very restless. A strong man was ordered to sit by his bed, to keep him as quiet as possible and carefully covered, and to prevent him from rising and getting out of bed.

℞. Sodii sulpho-carbolate . . . . . ℥ij.

Divide into six powders; one powder every three hours. Inject one pint of ice-cold water into the rectum, at intervals of four hours, until the kidneys act freely. Apply ice-bag to epigastrium. Apply sinapisms to back of neck and lumbar region over seat of kidneys. Administer at regular intervals of two hours, alternately, small quantities of brandy largely diluted with water charged with carbonic acid, and iced milk. Fragments of ice to be placed in the mouth. The brandy and carbonic acid water appeared to increase the nausea and vomiting, and were accordingly discontinued; the sodium sulpho-carbolate, on the other hand, appeared to quiet the stomach, and during the day the black vomit ceased and the patient enjoyed several hours of refreshing sleep. At 6 P.M., pulse 80; respiration 24; temperature of axilla 102 degrees. Patient in much the same condition but not so restless. The injections into the rectum of the ice-cold water were followed by a pretty free evacuation of high-colored albuminous urine. Black vomit has ceased but nausea still continues. Hemorrhage from the tongue and gums still continues. Continue treatment.

October 19. Condition of patient still alarming; great congestion of capillaries; the face presents a deep mottled purplish appearance; hemorrhage from gums and tongue. No return of black vomit. Kidneys excreting urine more freely. Pulse 94; respiration 24; temperature in axilla 100 degrees. Continue sulpho-carbolate of sodium, 20 grains every three hours; also ice-water injected occasionally if kidneys do not act freely. Iced milk at regular intervals; also small quantities of borax and water charged with car-

[50] These results appeared also to be due to the local application of ice to the epigastrium, and the injection of ice-cold water into the rectum, which not only controlled the nausea, but also reduced the excessive temperature.

bonic acid. At 7 A.M., patient apparently improving; intellect clearer; black vomit has ceased; nausea relieved; capillary congestion less; jaundice not so marked. The ice-water enema caused a free discharge of high-colored albuminous urine. Pulse 76; respiration 20; temperature of axilla 100 5 degrees. Continue sulpho-carbolate of sodium, ice-water enema, iced milk and brandy and carbonic acid water; reapply ice-bag to epigastrium; nourishment of the patient has up to the present time been confined chiefly to iced milk.

October 20, 8 A.M., patient decidedly better; vomiting has ceased; no nausea; free secretion of urine; capillary congestion disappearing and jaundice less intense; pulse 68; respiration 18; temperature 99.5. From this date the improvement of this patient was steady, and on October 22 the capillary congestion had almost entirely disappeared and the coloration of the skin was far less intense. Patient complains that he does not get enough to eat; says that he feels "bully," and putting his hand on his epigastrium says that his "*belly is hungry, and cries all the time for something to eat.*" Continued to improve and was discharged. The following is the record illustrating the relations of the pulse, respiration and temperature in this case:

Date. 1873	Pulse. M.	Pulse. E.	Resp. M.	Resp. E.	Temp. M.	Temp. E.	Remarks.
Oct. 16		106	. .	28	. . .	104 °	Fever.
" 17	100	98	28	26	106.5°	104.1°	Jaundice, capillary congestion, albumen and casts in urine.
" 18	82	80	28	24	102.1°	102 °	Urinary suppression, black vomit, hemorrhage from gums.
" 19	94	76	24	20	100 °	100.5°	Black vomit, less urine, scant hemorrhage from gums.
" 20	68	70	18	24	99.5°	100.1°	Vomiting arrested, urine more abundant.
" 21	66	64	20	22	100 °	100 °	Improving, hungry, urine abundant.
" 22	62	60	20	19	99 °	99.8°	Continues to improve.
" 23	62	66	20	24	98.9°	99.4°	Convalescent, sitting up, cheerful, bright expression of eyes.

The restoration to health was rapid and complete.

Case 3.—Yellow fever; sudden rise of temperature; treatment, sulpho-carbolate of sodium and quinin; recovery. Wm. H. Williams; native of New Orleans; age 26. Entered Charity Hospital, Ward 27, on the night of Nov. 8, 1873. Patient states that he has been at work for some two months near the city on dredge boat, cleaning out a canal. On the previous day had a chill, followed by high fever and delirium, and in this condition was brought to the hospital. The patient was ordered tablespoonful of the liq. ammoniæ acetates, every three hours. November 9, patient is more rational and complains of intense pain in the supraorbital region, along the spinal column and in the thighs and knees. Conjunctiva of eyes congested. Considerable capillary congestion of surface with marked jaundice. Gums red, inflamed and bleeding; tongue red at tip and edges, furred and fissured in center and bleeding. Body emits a disagreeable odor. M., pulse 84; respiration 30; temperature 98.5 degrees. Ordered 20 grains of the sulpho-carbolate of sodium, every three hours. Evening, patient in much the same condition but restless. Temperature 100.5 degrees; pulse 96; respiration 27.

November 10, urine scanty and loaded with albumen and casts of tubuli uriniferi. Pulse 80; respiration 30; temperature 101 degrees. Ordered continuance of sulpho-carbolate of sodium; also ice-water injections into the rectum. Evening, pulse 144; respiration 40; temperature of axilla 106 degrees. Urine scanty and loaded with albumen; high fever; vomiting. I was unable to account for this sudden rise in the temperature.

November 11, fever has subsided and the patient appears to be much better. M., pulse 96; respiration 36; temperature 98 degrees. Evening, pulse 93; respiration 30; temperature 98.5 degrees. Ordered 10 grains of quinin every three hours. Continue sulpho-carbolate of sodium, 20 grains every four hours. Milk punch and whisky diluted with carbonic acid water.

November 12, pulse 96; respiration 36; temperature 98 degrees. Evening, pulse 108; respiration 34; temperature 99 degrees.

November 13, M., temperature 101 degrees; pulse 78; respiration 24. Evening, temperature 99.5; pulse 78; respiration 24.

November 14, patient improving. M., temperature 97.5 degrees; pulse 69; respiration 21. Evening, temperature 97 degrees; pulse 63; respiration 20. Continue quinin 5 grains three times daily, also sulpho-carbolate of sodium.

November 15, M., pulse 60; respiration 18; temperature 96.5 degrees. Evening, pulse 60; respiration 20; temperature 97 degrees.

November 16, patient improving rapidly; albumen has disappeared from the urine. Temperature 98 degrees; pulse 60; respiration 22. Continued to improve. Discharged December 12.

Case 4.—Yellow fever; high temperature, 106.5; jaundice; slow pulse; treated with sulpho-carbolate of sodium, 20 grains every four to six hours; sulphate of quinia; ice-water injections and brandy diluted with carbonic acid water and iced milk. Recovered. Tully Brown; stout strong man; large muscles; brown hair; dark eyes. Has been in America five years. Has been working on the Mississippi River during the past year; occupation laborer. Patient states that he was seized with a chill Oct. 25, 1873, at 9 P.M. The chill and fever returned October 26 and 27. Admitted into Charity Hospital, Ward 24, Oct. 29, 1873. The following is the record of the pulse, respiration and temperature:

Date. 1873	Pulse. M.	Pulse. E.	Resp. M.	Resp. E.	Temp. M.	Temp. E.	Remarks.
Oct. 29	89	96	20	28	106.2°	106.2°	Some pain in head and back; skin hot and pungent; peripheral blood vessels congested; conjunctiva congested; bowels constipated; tongue red at tip and edges, and coated with brown fur in center; ℞. Quinia sulph. ʒi; divide into two parts, one every three hours.
" 30	52	90	20	28	100.5°	104.2°	The quinin, 20 grains, appears to have reduced temp. and frequency of pulse, but not permanently; patient sweating profusely and general appearance imp'd; tongue less red and coated. Continued quinin; chill at 10.30 A.M.
" 31	78	92	25	26	106.5°	105 °	Urine scant and loaded with albumen and casts, restless, complains of pain in head and back; jaundice; nausea; slept but little during night; quinin; sulph. carb. of sodium and ice-cold enema to bowels; ℞. Quinia sulph. ℈iss; pulv. rhei, ʒi; divide into three parts; one every three hours.
Nov. 1	74	78	24	28	101.5°	102.5°	Patient no better; not so restless; urine less abundant; ice-water enema appears to have been beneficial; less nausea; skin yellow; capillary congestion of extremities; albumen and casts in urine; continued sulpho-carb of sodium; urine suppressed; complains of pain in abdomen; repeated ice-water enema.
" 2	76	76	24	24	101.8°	101.8°	Restless; pain in head and abdomen; urine albuminous but more abundant; continued sulph..carb. of sodium.
" 3	84	72	24	22	102 °	102 °	Dull countenance; slept but little during past three nights; bowels constipated; urine scant; jaundice; capillaries congested; quinia and sulpho-carb. of sodium.
" 4	59	70	18	20	100 °	98.5°	Improving; urine more abundant; ice-cold enema appears to have been beneficial.
" 5	64	56	22	20	99.8°	98.8°	Slept well during night; in profuse perspiration; albumen diminishing in urine, which is more abundant.
" 6	62	58	18	20	100 °	98.8°	Albumen disappeared from urine; continues to improve; passed about 32 fluid ounces urine in last 12 hours.
" 7	. .	62	. .	18	. . .	100.5°	Countenance more natural; improving.
" 8	60	. .	20	. .	99.8°	. . .	Tongue moist and clearing off; appetite good; rests well; skin moist; steady improvement.
" 9	60	54	25	18	100.2°	99.5°	Improving.
" 10	62	66	20	18	98.8°	100 °	Convalescent.
" 11	60	62	18	20	99.5°	99.8°	
" 12	64	60	16	16	99.8°	99.5°	
" 13	62	76	20	20	100 °	98.8°	
" 14	60	. .	17	. .	99.8°	. . .	Discharged November 15.

Case 5.—Yellow fever; jaundice and slow pulse; urinary suppression relieved by ice-water injections; sulph-carbolate of sodium internally. Adolph Kammer; age 21, native of Sweden, has been in America six years, in St. Louis, from which place he came to New Orleans. Resided at 153 Levee Street, near the French Market. Had been in New Orleans one week, when he was attacked with fever. Entered Charity Hospital, Oct. 1, 1873, Ward 13, on second day of disease. Tongue red at tip and edges, and furred in the center; gums red; conjunctiva congested; skin hot and dry; patient restless and complains of intense pain in the head and back. The following is an outline of this case:

Date. 1873	Pulse. M.	Pulse. E.	Resp. M.	Resp. E.	Temp. M.	Temp. E.	Remarks.
Nov. 2	84	82	32	43	104.5°	105 °	Skin hot and dry; slight jaundice; gums congested; tongue dry and swollen; kidneys acting imperfectly. Although temp. in evening reached 105°, pulse was only 82.
" 3	86	96	32	34	102 °	102.5°	Passed a small quantity of urine by the catheter; urine loaded with albumen and contained many yellow granular casts; resp. rapid and irregular, and patient appears in great danger; ice-water injections per rectum appeared to do good; caused excretion of some urine; in evening complained of pain in epigastrium, which was relieved by ice bag to epigast'm.
" 4	72	70	28	36	101.5°	102 °	During night hemorr. from gums; passed urine quite freely towards morning; urine dark colored and loaded with albumen and bile; on 3d patient was placed on sulpho-carb. of sodium, 20 grs. every 4 or 6 hours; milk punch, brandy and beef tea and fragments of ice in the mouth.
" 5	54	48	26	24	98.5°	101 °	During 4th perspired freely and appeared to be improving; became much more quiet; sedative water to the surface appeared to quiet him greatly; on 5th passes urine freely, looks more cheerful and is improving; jaundice well marked but less.
" 6	52	50	26	22	98.3°	98 °	Passed a very comfortable night; jaundice disappearing; urine abundant; still contains albumen, but amount is diminishing.
" 7	46	50	22	24	97.5°	98.5°	Sitting up; all pain has disappeared; complains of nothing but a cough, which at times annoys him; appetite good; sleep quiet and refreshing; jaundice disappearing.
" 8	45	54	22	23	97.7°	98 °	During coughing spat up some dark blood; as there was no congestion of lungs and no rise of temperature, the blood was supposed to have come from mouth and throat. Albumen disappeared from urine.
" 9	52	50	26	27	97.8°	98 °	Is up and walking in ward. Continues to improve.
" 10	48	48	20	19	98 °	98.2°	Continues to improve.
" 11	52	52	26	24	98 °	98.7°	Jaundice disappearing rapidly, very slight tinge in skin and traces of yellow in eyes.
" 12	54	52	24	24	98 °	98.2°	Gains strength rapidly.
" 13	52	46	26	24	98 °	98.2°	Discharged from hospital Oct. 17.

Case 6.—**Yellow fever; jaundice; urinary suppression; delirium; treatment, ice-cold injections; sulph-carbolate of sodium; urinary excretion reëstablished; recovery.** John Pflum; age 26; native of St. Louis; laborer. Entered Charity Hospital, Ward 25, Oct. 1. 1873. Had a chill succeeded by high fever and pain in head and back. The following observations were made:

Date. 1873	Pulse. M.	Pulse. E.	Resp. M.	Resp. E.	Temp. M.	Temp. E.	Remarks.
Oct. 20	78	74	28	26	104.5°	104.5°	Pain in head and back; nausea; tongue red at tip and edge; coated in center; conjunctiva congested; gums red and swollen; face flushed; capillaries of face, chest and extremities congested; high fever; intense thirst; passes very little urine and with great effort; iced milk and ice in mouth.
" 21	72	76	24	26	102 °	103 °	Bowels constipated; passes urine with great difficulty and experiences much pain in micturition. Pain in head, lumbar region and lower extremities, nausea and vomiting; tongue very red at tip and edges and coated in center; gums swollen and very red; mind heavy and confused; urine scant, albuminous. Ice water injections and sulpho-carb. of sodium.
" 22	66	72	22	24	101.1°	103 °	Gums red, swollen and congested; tongue softer and not so red; urine contains albumen and casts; shows acid reaction; conjunctiva and surface yellow; nervous, restless. Ice water injections and sulpho-carb. of sodium
23	66	70	23	24	100 °	100 °	Improving; not so nervous; tongue clearing; urine albuminous, but more abundant. Continue sulpho-carb. of sodium, ordered also sulphate of quinia.
" 24	64	70	24	22	100.1°	101.1°	Continues to improve; urine albuminous with casts but more abundant; has some appetite; patient still very weak; continue quinia and sulpho-carb. of sodium.
" 25	62	62	22	20	99.3°	101 °	Improving. Sulpho-carb. of sodium continued; 20 grains every eight hours, as before.
" 26	64	60	23	23	99.1°	99.7°	Improving; continue sulpho-carb. of sodium; tongue clearing off; skin clearing off; hungry.
" 27	60	59	22	18	97 °	98.5°	Improving; although the urine is still loaded with albumen and casts; urine much more abundant and returns to normal standard; and sat up during the day.
" 28	60	56	18	20	97.6°	98 °	Continues to improve; albumen disappears from urine.
" 29	60	76	18	24	98 °	98.6°	Tongue clear and very near normal in appearance; urine abundant; is up and dressed.
" 30	60	62	18	24	98.8°	100.5°	Bowels regular; urine abundant; patient says that he feels well; walks about the ward.
" 31	60	60	18	28	99.1°	100 °	Patient expresses himself as feeling well.
Nov. 1	68	68	20	20	99.5°	99.5°	Discharged in good condition November 10.

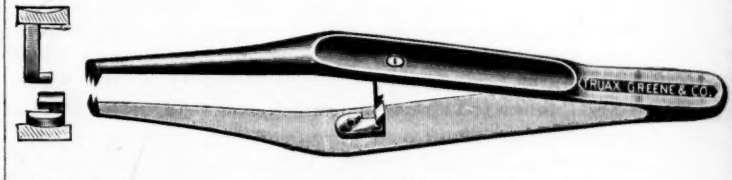
It is of interest to note that on October 22 the injections of ice-cold water were ordered and repeated three times. After the third injection, the patient passed quite a considerable amount of urine and fell into a refreshing sleep. The sulpho-carbolate of sodium, 10 grains every two hours, appeared to relieve the nausea. The patient slept well during the night and was able to drink a cup of milk and another of beef tea.

(To be continued.)

THE AUTOMATIC TISSUE FORCEPS.

BY EMANUEL J. SENN, M.D.
CHICAGO.

The automatic tissue forceps which I have devised, will be found to be an instrument of great utility in operative work and also one of precision. It is made of English steel, and consists of two blades which terminate in teeth. Midway between the extremities of the blades is the catch, which locks and unlocks automatically, synchronously with the grasp or release of tissues.



The instrument is operated with the thumb and index finger of the left hand with the same ease as in the use of the ordinary tissue forceps. Pressure sufficient simply to pick up the tissues is all the force required to lock the blades. This is at a minimum, as the blades possess great elasticity and consequently accommodate themselves to the "bite" of tissue, whether large or small.

To disengage the blades and release the grip, simply give them another gentle squeeze, when the catch unlocks.

This forceps possesses several advantages. In tedious dissecting, the thumb and index finger do not become fatigued, as the case with the ordinary forceps. During an operation, if the hands are necessary to manipulate some other instrument meantime, the forceps can be dropped with its "bite" of tissue intact and ready for subsequent dissection. The mind of the operator or assistant does not have to be con-

stantly concentrated on the instrument in order to insure its hold, the catch fulfilling that office.

The instrument was manufactured for me by Messrs. Chas. Truax, Greene & Co., Chicago.

SOCIETY PROCEEDINGS.

Chicago Pathological Society.

Regular Monthly Meeting, Nov. 11, 1894.

RANDOLPH N. HALL, President, in the chair.

DR. J. B. HERRICK reported a case of

GRAVE ANEMIA.

for which no other cause could be assigned than a severe nervous shock following an injury to the spine. The patient was a woman, 63 years of age, always in good health up to one year ago, leading an active busy life. There was no hereditary taint; no history or evidence of syphilis. In November, 1893, she fell to the sidewalk, hurting her back and left side; she walked home, but almost immediately after this injury became weak, physically and mentally. The legs began to bloat; she easily became dizzy, had fainting spells, was unable to walk for any great distance; became pale. Notwithstanding this, the appetite remained good. The bowels were somewhat constipated. She was admitted to the Presbyterian Hospital. Her complaint of vague pains, of weakness of the arms and legs, of mental deterioration, for all of which she assigned the injury as the efficient cause, coupled with the fact that there could be discovered no evidences of organic lesion to account for such phenomena, and also with the fact that she referred often to a $2,000 accident insurance claim which she had placed in the hands of a lawyer for collection, led to a suspicion of exaggeration of symptoms, as in traumatic neurosis or railway spine, if not to a suspicion of malingering. The increasing pallor of the skin led later to an investigation of the blood and a more thorough examination of the patient.

The skin was yellowish-white, dry; panniculus adiposus scanty; patient talked slowly; moved hands and legs slowly; seemed weak, unable to walk or stand unsupported; complained of dizziness on being put in the erect posture. Numerous retinal hemorrhages in either eye. Lungs negative; systolic hemic murmur over heart; systolic hum over vessels of the neck; abdomen flabby; stomach resonance apparently increased in extent; stomach when inflated with air apparently enlarged; lower extremities, rectum, pelvic organs, bones, negative. Stomach contents show no free hydrochloric acid, no mucus, no remains of previous meal. There was no vomiting; no disturbance of nervous system. Urine 1012, acid; no albumin, no sugar, no formed elements; amount from thirty to fifty ounces; solids, 660 grains. Blood pale; marked poikilocytosis, microcytes and macrocytes, a few normoblasts, and megaloblasts; leucocytes relatively increased, particularly the lymphocytes. Red corpuscles 666,666; hemoglobin (Fleischl) 25 per cent. Temperature varying during two months of observation from subnormal to 102 degrees. Diagnosis: Pernicious anemia; cause, probably nervous shock consequent upon injury. Atrophy of stomach not positively excluded. Dilatation of the stomach believed to be due to atonic condition of muscular wall consequent upon severe anemia. Dr. Herrick recalled two cases of nervous disease, one a case of cerebral hemorrhage with aphasia and hemiplegia, one a case of sunstroke with marked cerebral symptoms, in which profound and fatal anemia had resulted. He also cited cases reported by others, as, for instance, Curtin, Musser, Schüle, Brigidi, Pokrowski, and others, in which profound—and in many instances fatal—anemia had followed organic disease of the nervous system, or in some instances severe mental strain or shock. The patient had recently been put upon Fowler's solution, and later developments would, it was hoped, clear up one or two very interesting but as yet misty points. The report had been made perhaps a little prematurely, yet the occasion seemed so peculiarly fitting when other cases of diseases of the blood were to be brought to the attention of the Society, that he had ventured to bring the case thus early to the attention of the members.

VIDA A. LATHAM, F.R.M.S., D.D.S., presented a

REPORT OF A CASE OF LEUKEMIA.

Mrs. X., age 52; nativity, Welsh; occupation, housewife. Previous history: Patient has been married for a number of years; has had no children. The family lived in easy circumstances. The patient said she had malaria (?) at school during childhood, and it was prevalent where she lived in the State of Ohio. Duration of illness: General malaise and indifferent bad feelings for one year; she only noticed the enlargement of abdomen three months previous to her death. Clinical signs and symptoms. Night sweats with some temperature of slight degree, usually below 100 degrees, only once rising to 103 degrees. The kidneys were not affected, neither were the liver nor lymphatic glands enlarged.

The bones were not tender or painful. Emaciation was marked, as was the pallor of the face and skin. Some ascites and edema occurred shortly before death. The apex beat was displaced upward. The diaphragm was pushed upward.

The spleen was hard, and extended to within two inches of the right anterior iliac spine, about on a level with it, also across the hypogastric, umbilical and left inguinal regions, the notch of the spleen being about two inches to the left of the umbilicus at its level. There was a marked bulging between the left twelfth rib and the iliac crest and complete dullness on percussion in the left lumbar region posteriorly. There was obstruction of the intestines at one time, but her main symptoms were due to pressure—constipation, dyspnea and pain. This patient lived in the lowest part of A——, where the soil is always wet and drainage poor. During all her sickness—over a year—the street was dug up, for the building of a very deep outlying sewer. There were no other similar cases known. The blood which I examined through the kindness of Dr. Mary J. Kearsley, was spread on covers and examined by various methods, using dry air, fixing by heating on a copper plate, bichlorid of mercury, ether and absolute alcohol, chloroform, and staining in alcoholic eosin, counterstaining with methyl blue, methyl green, Rieder's method of eosin carbol glycerin and Delafield's hematoxylin, Czenzynski's stain, Ehrlich's hematoxylin and eosin, Ehrlich's Biondi triple stain, etc. The following forms were met with: Lymphocytes, especially the polynuclear kind, myelocytes, many with neutrophile granules, eosinophiles and very large mononuclear leucocytes. The red blood cells were paler than normal and variable in size. The proportions were one leucocyte to seventeen red blood cells.

About a month afterwards, I made another examination at the bedside with Dr. Kearsley. The blood with Gower's hemocytometer gave the red cells as 2,000,000 per centimeter or .40 of the normal, taking in each examination 1:600 as the normal blood ratio between red cells and leucocytes.

Hemoglobin with Fleischl's hemometer 18 per cent., taking 85 per cent. as the normal estimate.

Tho blood was very pale, but greasy, resembling marrow in the way it spread when trying to make the films. Cultures were also made, and round colonies of streptococci

which grew best on glycerin gelatin-agar were obtained. One tube of glycerin agar gave a streaked growth of a grayish-white color, covers from which showed a minute bacillus. The further study was prevented unfortunately through the patient falling into the hands of a quack who suggested an operation as offering a cure. The patient was removed to a private hospital in spite of the family physician's advice, and soon after her arrival the rectal anus was dilated and the patient died in a few hours from uncontrollable hemorrhage of the bowels.

Dr. E. H. Tinen read a

REPORT OF CASES OF LEUKEMIA AND PERNICIOUS ANEMIA.

In the following reports I have to thank Dr. Jas. B. Herrick for valuable suggestions, Dr. E. R. LeCount for aid in the pathologic work, and Dr. D. D. Bishop for excellent instruction:

Case 1. Leukemia.—M. K., age 43, female, married. Born in Ireland and lived there until five years ago and since then has lived in America. Menstruated at 16 and was perfectly normal until six months ago, since when it has been absent. Had children's diseases when small. Denies venereal history. Was married at 31; had a miscarriage at third month of pregnancy without any known cause. There was no subsequent pregnancy. Father died at 50 years of age, of some acute illness. Mother died at 30 years of age in confinement. One brother is living and 40 years of age. No brother or sister dead.

Present Illness.—Ten months ago was attacked with a sharp and quite severe pain in the left iliac region which persisted for three days, then disappeared only to return again in three weeks. For last two months has been free from pain. During past three weeks, feet and legs have been swollen. She complains only of weakness. There is no pain, vomiting, nausea or fever. Bowels are regular.

Physical Examination.—A woman of slight stature, fair complexion, marked paleness of visible mucous membranes and finger nails. Tongue slightly coated. Eyes and ears negative; pulse 166; temperature 102.2; respiration 24. Chest, lungs and heart negative. Liver dullness extends from fifth rib in nipple line to one inch below costal arch. Tenderness over the sternum. Abdomen: There is marked prominence of the left lumbar and epigastric regions. A mass can be felt occupying these regions, its anterior border extending in a curvilinear direction from the eleventh rib downward to the umbilicus, encroaching on the hypogastrium. Over this mass there is dullness, extending to the inferior angle of the left scapula posteriorly. A coarse friction sound is heard over the upper part of the dull area. Vaginal examination revealed nothing of interest. The feet and legs are edematous.

Urinalysis.—Specific gravity, 1015; no albumen, no sugar; microscopically negative.

One month later, July 20, 1894, an examination of the blood showed 50 per cent. hemoglobin. An increase in the white corpuscles was noted, but no count made. On Sept. 5 1894, the blood was examined and gave hemoglobin 40 per cent.; red corpuscles 1,650,000 per cmm.; white corpuscles 184,000 per cmm.

Stained Blood Preparations.—Cover-glass smears were fixed by heat, absolute alcohol and ether, absolute alcohol, and corrosive sublimate, and then stained by means of solutions of eosin, methylene-blue, dahlia, safranine and Ehrlich's Biondi triple stain. As regards the red cells, there was a variety of sizes varying from normal to twice the normal size. They assumed a variety of shapes—poikilocytosis. There were nucleated red cells of the normal size (normoblasts), and larger ones (megaloblasts), and many contained more than one nucleus. Free nuclei were seen, having escaped from the corpuscles and at first appearing as leucocytes. There were a few polychromatophilics. The differential count of the white corpuscles gave small mononuclears 2 per cent., large mononuclears 7 per cent., polynuclear neutrophiles 50 per cent., eosinophiles 5 per cent., and myelocytes 36 per cent.

On Sept. 26, 1894, a systolic murmur was detected over the base of the heart to the left of the sternum. On Oct. 11, 1894, the blood examination gave hemoglobin 30 per cent.; red corpuscles 1,134,000 per cmm.; white corpuscles 644,000 per cmm. On Oct. 12, 1894, she rapidly became worse and died at 7 P.M. At no time after admission did she have a temperature above 101.4 F. by mouth.

NECROPSY.

Twenty hours after death. Emaciation quite marked. Heart was negative as to valves and walls. Its auricles contained large light chocolate-colored clots. Lungs were negative except an area of broncho-pneumonia in the right middle lobe. There were firm adhesions about the spleen and liver; liver weighed 3,650 grams. Its section was through a fairly resistant though friable tissue; its lobules were indistinct having dark centers and light peripheries. Bile passages were patent. The kidneys together weighed 350 grams. There was a small infarct in the right one, but otherwise they were negative. The spleen weighed 1,850 grams, and measured 23x11x13x10x7 cms. There was a scar on the right lower border (4x2½ cm.) limited to the capsule. Over the upper and posterior part was a yellow area of depressed tissue measuring 10x5 cms. On section it was seen to extend into the spleen a distance of three cm. There was a similar but smaller area on the anterior aspect of the organ. These areas on section had the appearance of cream cheese. Otherwise the section of the organ was uniformly grayish-red. The bone marrow was pale and the bone soft.

Microscopic Examination.—Tissues were hardened in alcohol, imbedded in celloidin, and the sections were stained with hematoxylin and eosin, also with eosin and methylene blue. Pancreas: Great excess of leucocytes in vessels, none in the tissues. Liver has an alveolated appearance, the network composed of rows of liver cells, the meshes of capillaries in a state of extreme dilatation. The relation of liver cells to capillaries is as 1 to 2. All the capillaries and smaller vessels are completely filled with leucocytes, no red cells or remains of red cells being seen. There is pigmentation of liver cells with brown pigment, also there are hemosiderine granules about the central veins. The liver cells show degenerative changes to a small extent, staining markedly with eosin, and cells being seen with well stained, faintly stained and unstained nuclei. In areas there is marked compression of liver cells, the rows of cells being no thicker than sixteen micromillimeters and lying between dilated capillaries. The portal sheath connective tissue and vessel walls are invaded by leucocytes which stain deeply with hemotoxylin. Kidneys: There is a slight brown pigmentation of under layer of capsule. The glomeruli fill the capsules, as a rule, and contain an excess of nuclear elements. This excess is apparently due to small irregular darkly staining cells. In the capillaries there is a condition corresponding to that in the liver, the tubules being compressed and rarely possessing a lumen. There are a few degenerative changes in the epithelium of the convoluted tubules. There is also an excess of leucocytes in the larger vessels, and some of the medium-sized vessels are filled to distension with leucocytes. There are no leucocytes in the collecting tubules. Excess of connective tissue in the pyramids in the shape of hyaline intertubular framework is noticed. Spleen: There is an increase of the connective tissue confined mostly to the finer network. The capsule is

thickened and just beneath it the tissue contains brown pigment. Malpighian bodies are few and smaller than normal. There is almost an entire absence of red blood corpuscles. There is a small amount of golden brown pigment in the form of granules lying in the connective tissue framework and at times in the spaces or in the cells.

Lungs: There are areas of tissue where the spaces are entirely filled with darkly staining cells, other areas in which the lung structure has entirely disappeared, and in still others the alveolar walls can be seen. Between such areas there are regions of compressed and deformed alveoli, filled with a faintly staining granular substance. In the areas of consolidation the cells are large and show no signs of fragmentation or degeneration. In the areas where alveolar walls still remain, the alveolar contents are mostly polynuclear leucocytes with here and there in the peripheries large cells with a single nucleus. The alveoli with glanular contents show heavier walls than usual, due to the dilated capillaries. Bronchioles when seen are filled with granular homogeneous material in which are large numbers of leucocytes.

Heart muscle: It presents a peculiar appearance due to rows of nuclei separating the muscle fibers. The muscle fibers are compressed by dilated capillaries. Poor staining of the muscle is marked and general. In many places there are alternate rows of muscle fibers and leucocytes, frequently the row of fibers is only one or two fibers wide.

Case 2. Leukemia.—W. T., age 19; male; teamster. Father died of "paralysis," otherwise family history is negative. Venereal history denied. Uses alcohol moderately. One month ago he received an injury to his right leg, which was followed by suppuration. An incision was made and there is still an open wound. Four days before admission had an attack of diarrhea and vomiting. Has no pain. Has shortness of breath and palpitation of the heart.

Physical Examination.—Body is emaciated, conjunctivæ injected, tongue slightly coated and moist, lips and gums pale. Chest: Lungs are negative. The heart is very slightly enlarged and a blowing systolic murmur is heard just to the left of the sternum in the third interspace which is not transmitted. Abdomen: The liver dullness extends in the mammillary line from the sixth rib to one inch below costal arch. Spleen is easily palpable, extending forward to left parasternal line at the costal arch and below one inch below the umbilicus. A small notch is felt in its anterior border. It is moved by posterior pressure. No enlarged glands; no tenderness over bones. Blood examination gave red corpuscles 3,064,000 per cmm., white corpuscles 848,000 per cmm. The hemoglobin was not estimated. The differential count of the white corpuscles gave small mononuclears 3 per cent., large mononuclears 8 per cent., polynuclear neutrophiles 60 per cent., eosinophiles 6 per cent., and myelocytes 23 per cent.

A few days later he left the hospital and passed from observation.

Case 3. Leukemia.—H. H., age 37; male; farmer; admitted Nov. 1, 1894. Family history good. Born and raised on a farm in Wisconsin. Does not use alcohol or tobacco. Venereal history denied. Had typhoid fever twelve years ago, pneumonia three years ago. One year ago was kicked in ribs over spleen. Present illness: For some time he has complained of weakness and inability to endure heat. Three weeks ago was attacked with headache, weakness, and sensation of fever sufficient to cause him to stay in bed. A few days later he noticed a swelling in the abdomen, and a yellowness of the skin. He now complains of shortness of breath at times and palpitation of the heart. He has had no hemorrhages.

Physical Examination.—Body fairly well nourished; conjunctivæ slightly yellowish; tongue pale and coated. Skin has a yellowish tint and on cheeks are several petechiæ. Heart, not enlarged. A blowing systolic murmur heard equally well in all areas and not transmitted. Lungs were negative. Spleen, extends from eighth rib at inferior angle of the scapula to the median line in front and one inch above the umbilicus, with a distinct notch just above the umbilicus. Liver extends from sixth rib to one inch below costal arch in mammillary line. All the lymphatic glands are enlarged, the post-cervical exhibiting the enlargement to the greatest degree.

Blood Examination shows hemoglobin 20 per cent., red corpuscles 1,050,000 per cmm.; white corpuscles 108,324 per cmm. The differential count of the leucocytes gives small monuclear 3 per cent., large mononuclear 8 per cent., polynuclear neutrophiles 64 per cent., eosinophiles 6 per cent., and myelocytes 19 per cent.

He left the hospital in a short time and further study became impossible.

Case 4. Pernicious Anemia.—M. O., age 50; female, single; Admitted Oct. 23, 1893. Mother died of stomach trouble. Several of the family suffered from rheumatism. Menstruated at 16, and was always regular until present attack when they stopped. Does not use alcohol. Venereal history denied. Has had no previous illness. Present illness: Four months before admission she suffered from headache, pain in the epigastrium especially following the ingestion of food, anorexia, vomiting, diarrhea, edema of the legs, feet and eyelids.

Physical Examination.—Nourishment is poor; skin a waxy color; tongue moist; all visible mucous membranes pale. Lungs are negative. Heart. Area of dullness is increased; apex beat is two inches below nipple in nipple line. A murmur, systolic in time, is heard at the apex and transmitted to the left axilla. Liver dullness begins in fourth interspace and extends to border of costal arch. There is tenderness in the epigastrium. Feet and legs are edematous. Pulse 104, temperature 99.4, respiration 20.

Urinalysis.—Dark and cloudy, specific gravity 1027; considerable albumen. No casts found. A little later granular casts were found. During the year from admission until Oct. 1, 1894, her symptoms were those resulting from her nephritis, but they improved with the improvement in the renal condition. The latter part of the year, albumen and casts were absent, except for a short time before death when a trace of albumen was present. During the year there was considerable trouble referred to the stomach, especially after eating.

Physical Examination on Oct. 16, 1894: Lungs negative. Heart, the apex is in the fifth interspace in the anterior axillary line. Liver dullness extends a little below costal border. There is extreme tenderness in the region of the gall bladder also in the epigastrium. Spleen is not palpable. Eyes: Retina is pale, otherwise negative. Gastric contents after test breakfast revealed no hydrochloric acid, very slow digestion, great excess of mucus.

Urinalysis.—Twenty-four hour specimen—clear, specific gravity 1010, slight trace of albumen, no casts, total solids, 297 grains.

Examination of Blood shows hemoglobin 30 per cent., red corpuscles 738,000 per cmm., white corpuscles 8,000 per cmm.

In stained preparations were noted well marked poikilocytosis, and large and small nucleated red corpuscles. There was a slight increase in the white corpuscles.

The patient gradually grew weaker and died Nov. 7, 1894.

NECROPSY.

Peritoneal, pleural and pericardial cavities filled with a transparent yellowish fluid. There is slight hypertrophy of left ventricle and a little thickening of the aortic

valves at their bases and of the mitral valves at their free margins. The lungs were negative. The liver weighs 1900 grms. and the surface is granular at its edges. The cut surface is granular, the lobules having pale centers and dark peripheries. There are no large bands of connective tissue. Gall passages are patent.

The Spleen is slightly enlarged, its cut surface being mottled from the presence of perceptible whitish Malpighian bodies. The kidneys showed marked atrophy of the cortex with some yellowish streaks, the glomeruli not being visible.

The Stomach has no rugæ, the level of the mucous membrane is below that of the esophagus, and is very thin.

The Intestines were negative. There was injection of the internal layer of the dura mater, and a covering of fibrinous exudate. There was atrophy of the cerebral convolutions. The general muscles were very pale and flabby.

The microscopic examination is left for a later report.

DISCUSSION.

DR. I. N. DANFORTH—I can add nothing to what I have stated in a paper which has been published lately with reference to pernicious anemia. I will say, however, that I am experimenting on the treatment of pernicious anemia, or rather anemia of various types, in my wards in St. Luke's Hospital, and hope by-and-by to report the results, but for the present I have said everything I know in the paper already published. I have been greatly interested in the papers tonight, and as the papers by these younger men were being read I was thinking how we have moved along in the past ten years. It is about ten years ago when this Society met in my parlors, about half a dozen of us, to bury the Society, to hold a funeral service over it, but instead of doing that they elected me President, and from that time the Society began to flourish as several of the members rallied around me, and it has now grown to be this large and flourishing body. The papers read tonight evidence the growth of the Society and it is very pleasant indeed to me to meet these younger men, to see how they are pushing things along and to listen to these learned and exhaustive papers on leukemia and the anemias. The writers of the papers did not say anything about the presence or absence of the plasmodium of malaria. I suppose that the blood was examined for that; if not, I should regard it as rather an oversight and would suggest that it be done, because I believe it to be a very important factor in the diagnosis. But the most important thing in practice is the treatment of these anemic cases.

DR. G. F. BUTLER—The pathology and diagnosis of this disease has been thoroughly discussed, and as the natural bent of my mind is towards the therapeutic side of the case I will only discuss the therapy. From recent literature I have read on the subject of pernicious anemia and leukemia, it is evident to my mind that bone marrow now leads the procession in the medicaments for pernicious anemia. Whenever a new remedy is announced, the agent is applied to the treatment of disease and a verdict often rendered which gives an erroneous impression as to its true value. The first formulas are often given forth by physicians who are more enthusiastic than logical and more sensational than exact. So numerous are the fallacies of experiment and clinical experience that the painstaking therapist must read carefully the testimony in all of these cases, and examine with the same jealous care into the efficiency of the new remedy as the old. We all know that a true understanding of the therapeutic art must be upon an exact etiology and pathology, but at the same time a great many empirical facts are well founded upon professional experience and these well established facts should not be overlooked. I am therefore not prepared to disparage bone marrow as a remedy in pernicious anemia, but I would ask, Is the curative value of bone marrow a well established fact in the treatment of pernicious anemia, and indeed I would ask if there is anything in the recent literature on the treatment of pernicious anemia or of leukemia that is new? In every case I have read about, arsenic has been given in conjunction with bone marrow. We know that arsenic has been a valued remedy in the treatment of anemia for many years and there are many recorded cases of recovery under its use. Is it not quite possible that these reported cases of recovery have been due as much to the arsenic as the bone marrow, and even more? When a genuine case of pernicious anemia continues to rapidly improve upon bone narrow alone, then I will be ready to class it as a valuable remedy in this disease; when bone marrow has to its credit as large a number of recoveries as arsenic, then I will be ready to accord to it the virtues claimed for it by its enthusiastic supporters. Since bone marrow has struck Chicago there have been more cases of pernicious anemia reported than ever before in its history. I have found, not in my own practice, but by information from other doctors, a number of cases of anemia this last week, which some have claimed were pernicious, that have rapidly improved under the administration of bone marrow, and arsenic with iron on the side. I have had quite a number of cases of simple anemia and chlorosis that improved upon a mixture of the three chlorids of mercury, iron and arsenic, with codliver oil, and it seems to me if I had given kumyss with the other remedies I might have boomed that in connection with this disease. I am inclined to think that kumyss is as good a remedy as bone marrow. It is nutritious, easily digested and an intestinal antiseptic, and if given in connection with arsenic and good hygienic treatment it is a combination which will prove as useful as bone marrow and arsenic. I think thus far there has not been a case treated by bone marrow alone, at least I have not learned of any, and I am inclined to think that this remedy is perhaps of very little more value in the treatment of this disease than the so-called animal extracts which have been recently introduced. These extracts, given with the view of curing disease, appear to me to be about as sensible as to attempt to increase the weight and fiber of a tree by manuring it with fresh sawdust. I think bone marrow nothing more than a nutrient fat and it possesses no more advantage than cream or codliver oil. It seems preposterous to me, even admitting for the sake of argument that the structural disturbance of the bone marrow is the origin of the disease, that by eating calves' or hog's marrow it will escape the gastro-intestinal ferments and penetrate the bone substance and make good rich blood. On the supposition that the spleen is the seat of the formation of the red blood corpuscles, I would not be surprised to see calves' spleens given in whisky and glycerin. In conclusion, I would say that with arsenic, the best remedy we have to-day, we often fail because we do not push it to the limit. In my opinion it should be given in medium doses of Fowler's solution and should be increased in half drop doses until decided symptoms of arsenical poisoning appear, then the administration should be stopped for a time. Combined with a laxative we may continue to give this valuable drug with decided benefit in some cases.

DR. D. R. BROWER—I desire to say a word in emphasis of a point made in the paper of Dr. Herrick. This point I would emphasize, as it is of vast importance; that is, the factor of mental disturbance, of shock. The last case of pernicious anemia I saw, was a young woman from Wisconsin. A shock was the beginning of the disease. She was in a railway carriage and was severely shaken up, but with no particular mark s of injury that could be found at the time. Then her health began to fail and six or eight months after the accident she came here, when a diagnosis of pernicious anemia

was made, and like all the others, she passed to the other side. I have never yet seen a case of pernicious anemia recover, even after protracted doses of arsenic, or with other treatment. Cases of ordinary anemia that are so common, are frequently the result of shock and mental disturbance. I saw a case last spring in which Fleischl's hemometer gave 20 per cent. of hemoglobin. It was a young man who was troubled about his examinations soon to occur, and his blood deteriorated until it made a record of 20 per cent. There was nothing else but his intense mental worry and excitement and feeling of apprehension. The point I wished to make was to emphasize Dr. Herrick's suggestion of shock and mental disturbance having very much to do with the causation of many of these cases.

DR. H. N. MOYER—I was, fortunately for myself, invited by Dr. Herrick to see his very interesting case and I had the privilege of going over with him very carefully the clinical history and making an examination of the nervous functions. It was to me a case of rare interest because it was the first one I had seen of so grave an anemia apparently associated with nervous shock. The literature of the subject while in a way meager, in another way is comparatively rich; the older writers contain many references to anemia of a nervous origin, marasmus nervosa, it was termed, and they seemed to recognize very clearly the etiologic factor in many of these cases. These older observations have not the value they would have, if the present method of examining the blood had been in vogue. As to the relation in Dr. Herrick's case, between the disease and injury, as he has pointed out in his paper, all other things are not excluded and they probably can not be unless the patient should die. Regarding the treatment of pernicious anemia which has been mentioned, I would not agree with Dr. Butler as to the inefficiency of bone marrow. I do not think it has been demonstrated and I do not think that one can *ex cathedra* say it will not be of benefit. He says that extracts of tissues, the spinal cord, muscles, heart and other parts have failed. That is true, but it is not true of all extracts; there have been extracts of glands used that have proved to be of great value. I think the value of the thyroid extract in the treatment of myxœdema is established without doubt, and it is possible that in bone marrow we have a structure analogous to glandular structure, a secretion of cells going on which is of great therapeutic value. I agree heartily that arsenic is one of the very best remedies to employ in these anemias, particularly the forms that result secondarily to some trouble with the nervous system. But the method I have employed is the use of arsenic under the skin. It is very much less toxic than when given by the mouth and enormous doses can be used in this way in absolute safety. It is my common practice to give an initiatory injection with an equivalent of 22 minims of Fowler's solution, and I frequently reach an equivalent of 75 and in some cases 100 minims, 1 grain of arsenite of potassium in a single dose, without toxic symptoms. These large doses of arsenic act more efficiently than when given by the mouth The liver has a strong elective affinity for arsenic and it is absorbed through the alimentary canal with great difficulty. The toxic action expends itself almost wholly upon the stomach and upper end of the intestine. The hypodermic use of arsenic acts the same as inunctions of mercury in specific disease; it is distributed immediately to all parts of the system by the circulation. I have estimated the toxicity of arsenic to be five or ten times less when administered under the skin than when given by the mouth. The arsenite of sodium is free from any objection; it never causes the least sign of irritation. Fowler's solution can not be used in this way as it almost invariably causes an irritation and very frequently an abscess, but the arsenite of sodium may be injected, so far as local symptoms are concerned, with the same impunity as water.

DR. E. R. LECOUNT—With reference to the specimens of Dr. Tinen, I have to say that the heart muscle in the case of leukemia, presented a very peculiar appearance under the microscope. I did not see it in the fresh specimen. The heart muscle fibers were marked out by the leucocytic invasion of the capillaries between the fibers, very much as the capillaries in the liver were filled with leucocytes dividing the rows of cells. Although I had seen microscopic specimens of cases of leukemia before, this condition of the heart muscle was the most extensive and remarkable I have seen. In the case of pernicious anemia there was a distinct atrophy of the mucous membrane of the stomach. This could be easily demonstrated by taking a portion of the mucous membrane and spreading it with the peritoneal surface down upon the hand, and lightly moving the mucous membrane on the deeper layers, it being united to the deeper layers by a loose submucous tissue which allows ready motion. It could thus be seen that there was nothing there but a thin membrane making up the mucous coat.

DR. F. J. DEWEY—In connection with Dr. Herrick's paper and the influence of nervous shock in anemia, I recall a case I have under treatment at present, a young lady stenographer who works in one of the courts. Whether this anemia is pernicious or not, I am not able to say, but that the excitement of her occupation has a great deal to do with her condition I have no doubt. She is taking testimony from different lawyers and it must be absolutely correct and she must be able to read it at a moment's notice during a controversy. After she has had a most exciting time in court she always gets worse. She exhibits all the characteristic symptoms which have been brought out in the papers tonight, and it occurred to me, while Dr. Herrick was reading his paper that this nervous excitement was the cause of her trouble.

DR. J. M. PATTON—In connection with the etiology of pernicious anemia, Dr. Herrick mentions one case where sunstroke was supposed to have been the cause. Last summer I had under my care for a short time a woman 58 years of age who had always been in perfect health, had always had a good home, with every comfort and the most hygienic surroundings. She had never had any nervous troubles or shocks that could be found out, with one exception. Three years ago she suffered from sunstroke while in California. Last summer she came here to attend the World's Fair and shortly after her arrival she came under my care for hemorrhage from the gums. She stated at that time that she had not been very well for two years. She had a bad appetite, a good deal of gastric distress, the skin was of a light lemon color, the conjunctiva was pale and slightly injected, the retina looked normal. She had no trouble with the sight and beyond the gastric disturbance and trouble with the gums she knew of nothing from which she suffered. About a week after that she had a severe hemorrhage from the nose. These hemorrhages continued several days and the anemic condition seemed to be rapidly advancing. An examination of the blood at that time showed a very marked decrease in the number of red corpuscles and also of the hemoglobin. She gradually grew worse and died about three weeks after coming under my care. I mention this case because of the almost complete history of a number of years with absolutely nothing that could affect her in any way except this sunstroke.

DR. E. A. TINEN—I have to say that malaria was excluded from the four cases reported. The case of glandular leukemia had a history of injury over the spine. Taken in connection with Dr. Herrick's case it seems worth while to take note of that.

Dr. J. B. Herrick—It seems evident from the discussion that there is no clinical distinction between cases of primary and secondary anemia and chlorosis. Many of the cases of anemia that recover could not be called pernicious. There is a great distinction between chlorosis and pernicious anemia, that was merely hinted at in the paper, but in the examination of the blood no one should hesitate to recognize a case of chlorosis. Chlorosis is first of all a reduction in hemoglobin. Some patients are very pale, suffer from syncope and from most marked palpitation. Some who are dizzy and incapacitated for work may have a normal number of red blood corpuscles or the reduction be very slight as compared to the enormous reduction in the hemoglobin. In a case I saw about four years ago there were 34,500,000 red blood corpuscles and only 20 per cent. of hemoglobin, an enormous reduction. That was a case of chlorosis. In pernicious anemia, on the contrary, the marked reduction is in the number of red blood corpuscles; sometimes we find one or two million, and even less than one million; in one case it was 143,000. Many cases are reported where there is less than half a million red blood corpuscles found, but the proportion of hemoglobin is great. In the case I reported there was 13 per cent. of red blood corpuscles and 25 per cent. of hemoglobin. If it was a case of chlorosis there would probably be 25 per cent. of red blood corpuscles and 13 per cent. of hemoglobin. So I think many cases of anemia that recover can not be set down as pernicious unless a careful examination has been made. Chlorosis will recover with proper hygiene, the administration of arsenic and iron; anemia, secondary to some gastric disturbance may recover; anemia secondary to renal disturbance may recover, at least temporarily, but a clinical distinction should be made between cases of pernicious anemia and chlorosis, and ordinary secondary anemia. Recoveries from pernicious anemia seem to me to warrant us in excluding that term, "pernicious," which practically implies fatality. It is unquestionably true that there are cases which, after a careful examination are found to be clinically perfect as primary essential anemias, recover. Osler, out of twenty cases, has had two recoveries, the patients living ten or fifteen years. Some of Osler's cases which apparently recovered, died four or five years afterward, so that a fatal result may come from a relapse.

Dr. V. A. Latham—In the cases of leukemia I have seen, both in this country and in England, most of them had a malarial history. In the case reported to-night the plasmodium was carefully looked for but not found. In some recent researches I was looking over, I was rather astonished to note the rarity of leukemia. In some statistics gathered by prominent German and English authorities there was only 1 case in 60,000.

Dr. D. D. Bishop, Chicago, read a paper on

STAINED BLOOD PREPARATIONS.

In a routine examination of the blood as performed in the hospitals to which the laboratory staff of Rush Medical College has access, the following observations are always made:

1. A count of the number of red and white blood corpuscles per cubic millimeter.

2. An estimation of the percentage of hemoglobin present.

3. A cover-slip preparation of fresh blood is examined concerning the following possible conditions:

(*a*). Apparent changes in the color of the red blood corpuscles.

(*b*). Changes in the size of the red blood corpuscles, noting whether there be present corpuscles much smaller than normal, microcytes, or those larger than normal, macrocytes.

(*c*). Changes in the form of the red corpuscles, poikilocytes.

(*d*). The presence or absence of Laveran's organisms of malaria.

(*e*). A number of spread cover-slips are then taken and preserved for subsequent examination by the color-test as recommended by Ehrlich.

The Thoma-Zeiss blood counting apparatus is used in estimating the corpuscles; with this the red corpuscles are easily counted and with almost absolute accuracy. The limit of error with careful observers being placed at 2,000 a cubic millimeter. If there be leucocytosis, the white corpuscles may be counted in the same manner as the colored, but if the leucocytes be few, Toison's solution may be used as a diluent in place of the salt solution ordinarily used. By this means the nuclei of the leucocytes will be stained blue and may be easily separated from the red corpuscles. Again a ⅓ per cent. acetic acid solution may replace the salt solution when the red corpuscles will be destroyed and only the leucocytes remain.

Ehrlich's color test has attracted much attention of late years, for by its use a great deal has been added to the knowledge of the histology and pathology of the blood. In making this test the following methods are pursued:

The skin of the finger tip or the lobe of the ear is well washed with sterilized water, and pricked with a needle or fine lancet. The first few drops of blood are wiped away and a small drop as soon as it has escaped from the puncture is received upon a perfectly clean cover-slip held in forceps. Another slip, also held in forceps, is dropped immediately upon the first one so that the drop of blood may spread out in a thin layer between the two. They are then quickly but carefully separated by a sliding motion without pulling them asunder, and allowed to dry in the air. No delay should occur in the manipulations lest the corpuscles become crenated. Before staining, the dry slips must be fixed, by which means the corpuscles are firmly glued to the glass and the hemoglobin rendered unabsorbable by the dyes. Fixing is best done by Ehrlich's method, the slips being heated upon a copper bar to 120 degrees C., for one to two hours. Another easily applied and quite satisfactory method is to place them in either absolute alcohol alone or absolute alcohol and sulphuric ether, equal parts, for from one-half to twelve hours. The staining process: Ehrlich has divided the dyes used into three varieties, "acid," "basic," and "neutral." An acid dye is one in which the acid portion of the compound is the active principle in the staining process, an example being eosin, while a basic dye is one in which the basic side is more active, as methylene blue. A neutral dye is one formed by mixing previously prepared solutions of acid and basic dyes with the acid slightly in excess; an example being a mixture of acid fuchsine and hematoxylin solutions. In general, a basic dye stains nuclei while an acid dye stains the cell body. We shall see, however, that certain granulations found in the protoplasm of the cell body of leucocytes act in a definite manner toward the different dyes, and upon this the classification of leucocytes as given us by Ehrlich is based. The study of the varieties of leucocytes furnishes the greatest fascination of any part of this work, for by this classification there is spread out before the clinician a field from which much has been added to the more careful diagnosis of disease.

Fixed specimens of blood may be stained for five minutes or longer in a fairly strong, aqueous solution of eosin, washed, dried between two layers of filter paper, and again stained for three to five minutes in a concentrated aqueous solution of methylene blue, washed, dried as before, mounted in Canada balsam and examined with a one-twelfth oil immersion lens. In such a specimen a very interesting picture will be seen. Of the leucocytes one sees the following:

1. Small leucocytes, a little smaller or a little larger than

a normal red corpuscle with a spherical nucleus nearly filling the cell and staining deeply with the "basic" dye. Some of these show only a slight rim of protoplasm about the nucleus, while others show quite an appreciable amount which may or may not be slightly tinged with the red "acid" dye. These, Ehrlich has called the small mononuclear leucocytes or lymphocytes. They form about 15 to 20 per cent. of all leucocytes in normal blood.

2. Leucocytes considerably larger than the last, also having a roundish, oval or ovoid nucleus, which stains fairly well with the "basic" dyes and shows a relatively well developed rim of protoplasm about the border. These he called the large mononuclear leucocytes.

3. Leucocytes, much like the last but showing an indentation in one border of the nucleus. Ehrlich believed these were in transition stage from the last variety to the polymorphous nucleus of the next, hence spoken of as transition forms. Forms 2 and 3 constituting 6 to 7 per cent. of all.

4. Leucocytes, somewhat smaller than the largest mononuclears, with a polyform nucleus, staining lightly with the basic dyes, while the fine granules in the protoplasmic body of the cell will be lightly tinged with the "acid" dye. These were called the polynuclear leucocytes and because the protoplasmic granules stained well with the "neutral" dyes they are spoken of as having neutrophilic granulations. They are often called neutrophiles. The term, polynuclear, is misleading as it implies the presence of many nuclei in each corpuscle. This is not true as all leucocytes have but one nucleus. It is more proper to speak of them as leucocytes with polymorphous nuclei. These constitute 70 to 75 per cent. of all.

5. Leucocytes with polymorphous nuclei staining quite well with "basic" dyes and showing large rounded or ovoid granules in the protoplasm that stain dark red with "acid" (eosin) dyes, hence called eosinophiles. These granules always stain with the "acid" dyes and with no others. The eosinophiles constitute about 5 per cent. of all. Five different granulations behaving differently toward dyes have been described by Ehrlich, but as only three are found in human blood these only will be considered.

The eosinophilic or A— granulation is found only in the eosinophiles; the neutrophilic or E— granulation found in the majority of polynuclear leucocytes, and the B— granulation. The last is applied to those granules staining only with the "basic" dyes—basophilic. Such are found in the "mastzellen" of normal bone marrow.

The red blood corpuscles will be colored light red by the acid dyes and the blood platelets will slso appear in small groups tinged with the same stain. If one uses the triple stain of Biondi-Ehrlich which contains orange G, methyl-green and acid fuchsin he may get the effect produced by an acid, basic, and neutral dye at one and the same time. For such work one may employ the stain prepared by Grübler in the powdered form and use a saturated solution in water 6 parts, alcohol 1 part, and glycerin ½ part. This should be left in contact with the specimen three to ten minutes, washed, dried and mounted in balsam. Here one finds the red corpuscles yellow from the orange G. the nuclei of the leucocytes, the nucleated red corpuscles green from the methyl-green, and the neutrophilic granulations violet. The eosinophilic granulations will be stained a dark red.

So much for the normal blood. As to the relations of these varieties to each other, and their origin, there are two views. Ehrlich, on the one hand, claims that the small mononuclear forms are derived from the lymph glands and have no developmental relation to the other forms, while the large mononuclears and polynuclears are derived from the spleen and bone marrow. The eosinophiles also having their origin in the bone marrow. He believes that from the large mononuclear forms the transitional and polynuclear leucocytes are developed. The polynuclears, he says, are the only variety that possess amœboid movements, are oftenest found remote from the vessels, that they divide by karyokinesis, and perhaps by amitosis as well. This differs from the view held by Virchow that all other varieties are developed from the lymphocytes. Ouskow has lately supported this view, he having found upon examination of fresh juices from the blood forming organs, small mononuclear elements in not only the lymph glands but in the bone marrow. He believes karyokinesis occurs in the lymphocytes and continues up to the polynuclears, after which it can no longer occur. The tendency to-day is to accept this mode of development. Ouskow classifies the leucocytes as young, ripe and over-ripe forms corresponding respectively to Ehrlich's lymphocytes, large mononuclears, and polynuclears. If one examines stained smear preparations of bone marrow blood he finds several cells not seen in the circulating normal blood. These do appear, however, in certain diseases, in the circulation.

1. Of the red corpuscles one sees nucleated corpuscles of normal size, Ehrlich's normoblasts, again corpuscles considerably larger and nucleated, the megaloblasts of Ehrlich and Hayem. Their nuclei stain deeply with the basic dyes. These elements appear in the blood of pernicious anemia, the secondary grave anemiæ and leukemia. They are generally considered as rapidly developing young forms.

2. Large cells with a rounded or ovoid single fairly-staining nucleus, about the size of the large mononuclear leucocytes, but containing neutrophilic granulations—the myelocytes. These are of very infrequent occurrence in normal blood but are present in spleno-myelogenous leukemia.

3. The "mastzellen," much like the large mononuclear leucocytes, but showing coarse "basophilic" granulations in the protoplasm, are seen in bone marrow blood and in the circulating blood of spleno-myelogenous leukemia.

The application of the color test has been found of great service in determining the different varieties of the so-called blood diseases. It is only natural to expect that other important aids to diagnosis will be established as further accurate observations proceed. Already some important facts relative to the varieties of leucoytosis found in the different specific fevers have been discovered by the able researches of Ouskow and Khetagurow and confirmed by Thayer and others. The blood of several cases of malaria has been lately exhaustively studied by Billings, of Johns Hopkins Hospital, who has pointed out some very interesting and important facts relative to the leucocytes in that disease. It is to be hoped that we shall yet learn the true etiology of those diseases in which there are such profound blood changes, now so mysterious.

Proceedings of the First Meeting of the American Academy of Railway Surgeons.

Held at the Grand Pacific Hotel, Chicago, Ill., Nov. 9 and 10, 1894.

(*Continued from page 94.*)

THIRD SESSION, FRIDAY, NOVEMBER 9, 8 P.M.

DR. H. J. MAYNARD in the chair.

The Committee on Constitution and By-Laws, through its chairman, Dr. C. K. Cole, made the following report, which was adopted at Chicago, Nov. 9, 1894:

CONSTITUTION AND BY-LAWS OF THE AMERICAN ACADEMY OF RAILWAY SURGEONS.

NAME.

1.—The name of this organization shall be the American Academy of Railway Surgeons.

OBJECTS.

2.—The objects of the Academy shall be the improvement

and advancement of Railway Surgery by means of the study of the subject in general, and especially by the study and investigation of clinical, medico-legal and sanitary matters relating thereto; by the reading and discussion of papers in convention, and the cultivation of closer fraternal relations among those actively engaged in this special work.

MEMBERSHIP.

3.—The members of this organization shall be known as Fellows, and shall be divided into two classes, namely, Active and Honorary. The list of Active Fellows shall be limited to two hundred (200) Railway Surgeons, and shall be restricted to those in actual service as such at the time of their election.

No Fellow shall continue as an Active Fellow after having severed his connection with a railway company, but he may become an Honorary Fellow by a vote of the Academy as herein provided. Honorary Fellows shall have the same privileges as Active Fellows, excepting the right to vote, hold office and participate in the Executive Sessions.

The list of Honorary Fellows shall at no time exceed one hundred (100) and shall be composed of such surgeons and physicians, as may be elected at any regular meeting by a two-thirds (⅔) vote of the Academy, provided that after the year of 1894 not more than five (5) Honorary Fellows shall be elected at any annual meeting.

PENALTIES.

4.—Upon a sufficient showing that a Fellow has been wilfully guilty of gross violation of the laws governing the Academy, or any form of professional misconduct, the Executive Board may recommend that his resignation be requested, or move his suspension or expulsion. A majority vote of the Fellows present, at an Executive Session, being necessary to fix the penalty.

OFFICERS.

5.—The officers of the Academy shall consist of: A President; two Vice-Presidents; a Secretary; a Treasurer; an Editor; an Executive Board of seven (7) including the President, the Secretary and the Treasurer, who shall be *ex-officio* members thereof.

ELECTIONS.

6.—Applications for Fellowship shall be made in writing to the Executive Board signed by three (3) Active Fellows who are personally acquainted with the candidate. Upon a favorable report by the Executive Board a ballot shall be ordered, when if not more than three (3) negative votes appear, the candidate shall be declared elected.

The officers of the Academy shall be elected on the last day of each annual session by ballot; a majority vote of the Fellows present being necessary to a choice.

MEETINGS.

7.—The annual session of the Academy shall be held at such time and place as shall be designated by a majority vote at the previous annual session; and each session shall continue for three (3) days, unless otherwise ordered by the Academy.

An executive session for the transaction of business shall be held on the morning of the first day of each session, none but active Fellows of the Academy being present.

BY-LAWS AND RULES OF ORDER.

1.—The President shall preside at all regular meetings of the Academy, sign all official documents, and perform the ordinary duties appertaining to his office. In his absence one of the Vice-Presidents shall occupy the chair in the order of seniority; or if both of them are absent, by a Fellow elected by the Academy.

The Secretary shall keep a correct record of the proceedings of the Academy, give notice of the time and place of all meetings, receive the signatures of Fellows, sign official documents and take charge of all property of the Academy not otherwise provided for.

The Treasurer shall receive all money paid into the Academy and disburse it upon the authorized order of the President and Secretary. He shall make a full report, and his accounts shall be audited by a select committee appointed for that purpose at each annual session.

The duties of the Editor shall be those ordinarily pertaining to such an office. He shall edit all the papers and discussions, and see that they are published as directed by the Academy. He shall act as a member of the Publication Committee, consult with said Committee regarding the publication or exclusion of any paper or discussion submitted to him for publication, and assist in securing papers for each annual meeting and the proper arrangement of the same on the program, and such other duties as may be assigned him by the Committee on Publication.

EXECUTIVE BOARD.

2.—At the annual session of the Academy in 1894, four Fellows of the Executive Board shall be elected; one to serve one year, one to serve two years, one to serve three years and one to serve four years; at each annual session thereafter one member of the Executive Board shall be elected to serve four years. The functions of the Executive Board shall be both judicial and executive; it shall have the general supervision of the affairs of the Academy; it shall recommend candidates for membership in the Academy, and it alone shall have the power of moving their expulsion or suspension for any alleged offense against the Constitution or By-Laws. It shall act as a Committee on Credentials, hold any necessary meetings in the interval between sessions, and its action shall be deemed the action of the Academy unless reversed by that body.

COMMITTEES.

3.—Committee on Transportation. At each annual session the President shall appoint a Committee on Transportation consisting of three (3) Fellows. It shall be the duty of this Committee, as far as possible, to arrange with the various railway companies for the transportation of the Fellows of the Academy to and from the annual session. They shall cause the publication of a list of railways granting transportation, and other necessary information.

Committee on Publication. The President, Secretary, Treasurer and Editor shall constitute a Committee on Publication to which shall be referred all papers, reports and other matter suitable for publication by the Academy.

Committee of Arrangements. A Committee of Arrangements, consisting of three (3) Fellows, shall be appointed by the President at each annual session, the Chairman of which shall reside in the place where the next annual session is to be held. This Committee shall confer with the Committee on Publication in the preparation of the program for the next annual session, a copy of which shall always be sent to each Fellow at least one month before the opening of the session; and shall make all necessary preparation for the meeting of the Academy.

SCIENTIFIC WORK.

4.—The scientific work of the Academy shall be divided into: 1, surgical; 2, medico-legal; 3, sanitary.

All papers and reports of discussion shall become the exclusive property of the Academy, subject to such disposition as shall be ordered by the Committee on Publication.

MEMBERSHIP FEE.

5.—The admission fee shall be five dollars ($5), to be paid when the application is made. Should the applicant fail of election this fee shall be returned to him.

DUES.

6.—The annual dues shall be five dollars ($5) payable on or before the last day of the annual meeting. Neglect or

failure on the part of any Fellow to pay his dues shall forfeit his right to vote or receive the perquisites of the Academy, until his dues are paid, and the failure to pay his dues after the annual meeting shall forfeit his Fellowship.

QUORUM.

7.—Any number of Fellows present at the appointed time of the annual session shall constitute a quorum for the transaction of ordinary business, but for the election or expulsion of Fellows, or for altering the Constitution and By-Laws, twenty-five (25) Fellows shall be required to form a quorum.

ORDER OF BUSINESS.

8.—1. Call to order.
2. Addresses or other special exercises as prepared by the Committee of Arrangements.
3. Reading minutes of previous meeting.
4. Report of officers and committees.
5. Miscellaneous business.
6. Announcements.
7. Reading reports of cases and exhibitions of patients, specimens, apparatus, etc.
8. Reading and discussion of papers.
9. Unfinished business.
10. Election.

RULES.

9.—Roberts' Rules of Order shall govern the deliberations of the Academy.

AMENDMENTS.

10.—Proposed amendments to the Constitution and By-Laws must be offered in writing, at a regular session, and shall not be acted upon until the next ensuing annual session, when a two-thirds (⅔) vote of the Fellows present shall be necessary to adopt.

On motion of DR. R. HARVEY REED, the report was considered, section by section.

On motion of DR. WEBB J. KELLY, the amended Constitution and By-Laws were adopted as a whole.

On motion of DR. R. S. HARNDEN, the appointing of a Committee on Nominations was dispensed with.

DR. R. HARVEY REED reported that an option had been offered the Academy from the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, whereby said JOURNAL would furnish the Academy a department, and would permit of the Academy's appointing its own Editor; and that he would furnish to the Academy a bound volume of the transactions of the Academy, bound in cloth, price not to exceed $1 per volume.

On motion of DR. R. HARVEY REED, the Academy accepted the proposition from the Editor of the JOURNAL, and the chair appointed a Committee, consisting of Dr. R. Harvey Reed, Columbus, Ohio; Dr. John E. Owens, Chicago, Ill.; and Dr. C. K. Cole, Helena, Mont., with instructions to close said contract and the committee was further instructed to make a contract with the Editor of the JOURNAL for three hundred (300) bound volumes of the Transactions, the price not to exceed one dollar ($1) per volume.

On motion of DR. C. D. EVANS, the election of officers was made the special order of business at 2 P.M. Saturday.

On motion of DR. F. H. CALDWELL, the banquet was abandoned.

Adjourned until Saturday morning, 9 A.M.

(To be continued.)

Louisville Academy of Medicine.

The second regular meeting of this society was held in its rooms in the Fonda Building, Monday evening, January 7, its President, DR. T. L. MCDERMOTT in the chair. The subject occupying the attention of the members was a continued discussion of Dr. Bailey's remarks at the last meeting: "Shall the antiseptic vaginal douche be a routine procedure in obstetrical practice?"

DR. W. H. WATHEN stated that when a woman is healthy and in labor her vagina is practically aseptic; the vaginal secretions have a cleansing effect, and if there is any septic material in the vagina or uterus it must have been conveyed there by the attendant. If the douche is adopted as a routine practice it will cause twenty-five cases of sepsis where it will prevent one. Since the general adoption of this practice it has killed ten where it has saved the life of one. He asserted that he was positively opposed to the douche as a routine practice, and that it should never be used save where sepsis is suspected, and then not only as a vaginal but also as a intra-uterine douche, since if infection is in the vagina it is also in the uterus, because of the intimate relationship of the parts and the likelihood of absorption by lymphatics. Puerperal sepsis is nearly always exogenetic.

DR. H. A. COTTELL stated that when the aseptic and antiseptic midwifery craze struck the country he reviewed an article in which the stand was taken that the antiseptic precautions should begin as early as the sixth or seventh month, and it called forth a comment from him. Should not the spermatozoid be made aseptic before being allowed to go on its way? He took the ground that labor is a physiologic process, and not pathological, and when this factor enters into it then is the time to use antiseptic precautions. The woman in the parturient condition is in a physiological condition not a surgical. Nature protects the case by making a glazed surface of granulations over these rents and tears which occur in all cases, and the germs are not absorbed, but pass over them; give a douche, however, the granulations are broken up, and absorption occurs. He does not believe in auto-infection, and believes this new theory of sepsis being due to the bacterium coli communi, simply an excuse, that it is not probable that these bacteria enter the vagina from the anus, and it is impossible for them to penetrate the tissues. In catheterizing lying-in women, he could not help but say a word of warning against the introduction of the catheter by the sense of touch. Expose the patient, cleanse the parts about the meatus, then introduce a clean catheter.

DR. J. B. BULLITT.—Nowadays there are few advocates of the douche following labor, except when there is sepsis, then an intra-uterine douche, preceded by a curettement and followed by packing for drainage. In Germany, very radical measures are used, and the mortalitty is much reduced. If a douche be given, it must never be given save by the doctor or trained nurse. The whole question could be settled by discouraging vaginal examinations. Keep hand out of vagina but follow the progress of labor by external palpation.

DR. HENRY E. TULEY stated that in order to refute one or two statements of Dr. Wathen's, he would relate his experience as resident at one of the large maternity hospitals of the East. Sloane Maternity Hospital, New York, where vaginal douches of bichlorid, 1 to 5,000, were a routine practice. Immediately after admission, the patient was given a full bath and a vaginal douche, if not in labor. When labor began, she was given a douche, and an enema, followed by a douche directly after labor. Then many examinations were made, by the students as well as the nurses, and of the 222 cases delivered during his three months residence there were only 3 cases who had temperature which could not be explained as being due to other causes than sepsis.

DR. TULEY exhibited before the Academy a douche nozzle, the same as used at Sloane; it is made of glass, smaller than a Chamberlain tube, with a small curve at the end, and

near the other end a bulb, blown in the tube, which serves as an index as to where the tip of the tube is, it being on the same side with it. Though so successful in hospital practice with the vaginal douche, both before and after labor, Dr. Tuley stated that in his opinion the douche in private practice was impracticable.

Dr. Frank stated that in his opinion the douche in private practice as a routine, was inadvisable. Labor is a normal condition, and may become surgical. In obstetrical surgery as version, the douche is advisable. The secretion of the vagina and the amniotic fluid tend to rid the vagina of any bacteria present. If bacteria are resident in vagina they must be gotten rid of, but this can be accomplished, not by the douche alone, but only by scrubbing the same as would be done before any operative work upon the uterus or vagina. He spoke of the method of ballooning the vagina, which he had been unable to find mentioned anywhere, in giving the douche, which is accomplished by introducing the fingers with the tube, which acts as a plug, the water accumulates and distends the vagina.

Dr. Bailey, in closing the discussion, stated his appreciation for the liberal remarks made. He said that the secretion of the vagina takes care of most of the bacteria present, neutralizing their effect, but if they are present in the uterus he advised a douche, as the uterus secretion cannot do the same thing. He called attention to some remarks made in his paper, in regard to a vaginal douche given before labor, preventing the blindness which is so common in children. He disagreed with Dr. Frank as to the ballooning the vagina of a lying-in woman by distending it with water, owing to the possibility of forcing some of the dislodged septic materia through the patulous or into perhaps an aseptic uterus.

At the conclusion of the discussion, the Academy was entertained by the address of its President, Dr. T. L. McDermott.—(See page 109.)

BOOK NOTICES.

Blood Serum Therapy and Antitoxins. By Geo. E. Krieger, M.D. With illustrations. Cl., pp. 69. Chicago: C. H. Colegrove & Company. 1895.

This timely monograph is an excellent *resume* of the existing state of knowledge and current literature on this subject. The contents are as follows:

Chapter I, Blood Serum Therapy; II, Toxins and Toxalbumins; III, Tetanus; IV, Diphtheria. The author has produced a well-written book; there are a few errors of proof reading and some of orthography, such as "chaolin" instead of kaolin, page 18; "paralize" instead of paralyze, page 26, and some sentences which betray the German idiom, but these are minor defects and do not materially detract from the great merit of the work. We hope to chronicle the fact that this little book has passed to its second edition, and as there is great need of the special information contained in it, we feel sure that the hope will be realized at an early day.

Myxœdema, Cretinism and the Goitres with some of Their Relations. By Edward T. Blake, M.D., M.R.C.S. Paper, pp. 89. Bristol: John Wright & Co. 1894.

The author in this brochure seeks to establish the septic or infectious nature of the disease and the propositions he endeavors to establish are: 1, that Graves' disease in women is an autotoxis, most frequently caused by absorption of purulent products; that process being *aided*, rather than *induced*, by the toxins of terror and shock; 2, the same products lead to the production of rheumatism in males, by acting in the same locality, viz., the medulla oblongata; 3, if these products abolish the functions of the thyroid, we may get myxœdema; 4, if these products invade the cortex, in large quantity and abruptly, we get a psychosis, as for example, mania or some neurosis such as epilepsy; 5, if the invasion be more gradual and the poisons more diluted, we get chorea.

The brochure is well written and extremely interesting.

NECROLOGY.

Dr. Benjamin Freeman Fessenden, the subject of this sketch, was born in Plymouth, N. C., Sept. 16, 1818. His father came from Massachusetts. Early left an orphan, he was brought up by a conscientious guardian, who took excellent care of his early education.

Having completed his preparatory studies, he entered the University of Pennsylvania, and graduated with honor in 1842. His thesis on graduating was "Unguentum Hydrargyri Nitratis vel Unguentum Citrini." Under the head of "Citrine Ointment," in Wood & Bache's "Dispensatory," Dr. Fessenden's thesis is mentioned and his methods approved.

The Doctor married early, and practiced his profession in his native place until the War of the Rebellion broke out. He was at once made Surgeon-General in the Confederate Army and was Medical Director of the State of North Carolina, all through the war.

After the war, in 1865, he moved to Brooklyn. Then began an acquaintance between the Doctor and the writer of this sketch that ripened into the firmest friendship, broken only by his death. Dr. Fessenden was a man not easy to become acquainted with; but when once well known he was highly appreciated for his sturdy virtues and the excellencies of mind and heart which he possessed. Living opposite me for nineteen years, I was in his house, or he in mine, almost every day. I have been with him by the bedsides of his sick and dying loved ones, and he has been with me on similar occasions. His courage, cheerfulness, sweet and manly resignation to the Master's will have compelled my perfect admiration. His words and acts of solace and comfort to me have touched my heart and made me love him as a brother.

Dr. Fessenden was sometimes brusque in manner, never fond of show, and all kindly in heart. He was a great student of literature and could repeat many portions of Shakespeare; nearly, if not all, of Pope's essays, especially the "Essay on Man," and would often amuse and delight his friends by his excellent recitals of some of them.

In the sick chamber he required strict obedience, and rewarded it with kind, constant and skillful attention. He made it a point to be kind and helpful to the younger members of the profession; and so honest was he that, as he often told me, he early made it a rule of his life—from which he never swerved—never to take a patient from any other doctor, if it were possible not to do so; but always to have some good word to say, or some reason to give, why the patient should continue with the doctor he was then employing. This reputation he enjoyed to the last.

He was positive in character, and for this reason his friendships were ever faithful and deeply rooted, and his dislikes equally pronounced. Many men, women and children learned to love him, and many have told me how much they miss his pleasant smile, his kind, cordial, gentle, yet decisive advice.

Dr. Fessenden was one of the first members of our Association and he took a great interest in it. He was, I believe, the first to be taken from us by death. In years, he was one of the oldest physicians in Brooklyn.

For more than a year he has occasionally complained of vertigo, which he believed to be due to the inactivity of his liver and kidneys. This, however, generally readily yielded to treatment and passed off. It was not until early in July last, when the Doctor had an attack that seemed to him like a light stroke of apoplexy, that he felt the necessity of calling in a physician. When I saw him first, he seemed to appreciate his condition; but was not at all alarmed and professed himself ready. His disease was fatty degeneration

of the kidneys, and in spite of the best medical care and the most careful and loving nursing, he sank into a deep coma, and on the 27th of July quietly and peacefully passed away, to join his loved ones in the land where sorrow and sickness and parting never come.

He has left a clean clear record, and many, very many, sorrowing friends, who will never forget him. We are among these.

"His fight is fought, his battle done;
The victory of his life is won;
The peacefulness of his rest begun."

Published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION by request of the Kings County N. Y. Medical Association.

NATHAN CARTWELL, M.D., died in Tustin, Orange County, Cal., Jan. 3, 1895, suddenly, of neuralgia of the heart. He was born in Nelson County, Ky., and went to Louisville when a boy. Wrote in the clerk's office under Worden Pope and was a student in the Medical College. He located in Union County, Ky., where he lived many years, engaging successfully in the mercantile business and later in banking. In 1883 he removed to Waco, Texas, and entered into the banking business with a former partner, under the old name of Cartwell, Higginson & Co., but the climate not suiting his always delicate health, in January, 1887, he sought Southern California, where his last years were peacefully passed on an orange ranch. In January, 1869, he married Llewellyn, eldest of Judge Huston of Morganfield, who with seven children mourns his loss. Dr. Cartwell was a man of unquestioned integrity, and a devoted member of the Episcopal Church.

D. D. BELKNAP, M.D., of Whitewater, Wis., January 15, aged 75.——Frank M. Trude, M.D., of Chicago, January 14, aged 26.——Stephen Roof, M.D., of New York, January 10.——Myron Leslie Baxter, M.D., at Derby Line, Vt., January 8, aged 55 years. He was a brother of the late Surgeon-General Baxter of the Army.

SOCIETY NEWS.

Burlington County (N.J.) Medical Society.—The Burlington County Medical Society held its annual meeting at Mount Holly January 15. The following officers were elected: President, F. G. Stroud; Vice-President, J. H. Pugh; Secretary, A. W. Taylor.

Oakland County (Mich.) Medical Society.—The Oakland County Medical Society held a regular meeting at Pontiac January 9.

Montgomery County (Pa.) Medical Society.—The Montgomery County Medical Society held its annual meeting at Morristown January 9. The following officers were elected for the ensuing year: President, J. L. Weaver; Vice-Presidents, J. R. Care, of Worcester, and S. R. Hunsberger, of Skippack; Recording Secretary, H. H. Whitcomb; Corresponding Secretary, J. K. Weaver; Treasurer, S. N. Wiley.

American Association of Obstetricians and Gynecologists.—This Association will meet in Chicago next September.

Medico-Pathological Society.—The annual meeting of the Medico-Pathological Society of York City, Pa., was held January 10. The following officers were elected: President, I. H. Betz; Vice-Presidents, W. H. Minnich and G. E. Holtzopple; Secretary, S. K. Pfaltzgraff; Treasurer, J. F. Klinedinst. The annual banquet of this Society will be held February 14.

Will County (Ill.) Medical Society.—The annual meeting of the Will County Medical Society was held January 10. The following officers were elected: President, Wm. Richards; Vice-President, R. G. Rulien; Secretary and Treasurer, Wm. Dougall.

Newport (R. I.) Medical Society.—The Newport Medical Society held its annual meeting January 16. Honorary President, N. H. Storer; President, Francis H. Rankin; Vice-President, C. F. Barker; Secretary, Mary E. Baldwin.

Chicago Ophthalmological and Otological Society.—Regular meeting held Dec. 11, 1894. Dr. Hotz in the chair. There were twenty-six members and visitors in attendance.

On motion, the reading of the minutes of the last meeting was omitted.

DRS. MARY HOLLISTER, Paul Guilford and F. E. Gavin were elected members.

The application of Dr. W. E. Gamble was read and referred to the Committee on Membership.

DR. GRADLE showed a specimen of tumor of choroid, presumably sarcoma, preserved in formalin. The colors and transparency were life like. He also referred to an article by Beer, in *Archiv für Physiologie*, on the accommodation of fishes' eyes. The rest of the evening was occupied by Dr. Meyer of Kankakee, with an essay on "Cranial Nerves."

On motion the Society adjourned.

103 State Street. C. P. PINCKARD, Secretary.

SELECTIONS.

A New Constituent of the Atmosphere.—The proportional parts of the essential constituents of the atmosphere, oxygen and nitrogen, were determined with much accuracy more than one hundred years ago. For an almost equal length of time it has been thought that these gases with three others—carbonic acid, ammonia, and water vapor, which occur in very small quantities, were the only other all-persistent components of the atmosphere, that is, components not due to local causes. It was, accordingly to be expected that the announcement of a new constituent of the atmosphere would be received with surprise and interest. This announcement was made at the last meeting of the British Association for the Advancement of Science, in August of this year. The suggestion of a new constituent came to Lord Rayleigh in 1893, while determining the densities of the principal gases. In these investigations he discovered that the nitrogen obtained by the decomposition of ammonia was lighter than nitrogen obtained from the air. He at first thought that this might be due to the existence of an allotropic form of nitrogen, similar to the modified form of oxygen known as ozone. By April, 1894, Lord Rayleigh had determined the density of nitrogen obtained from ammonia, from nitrous and nitric oxids, and from ammonium nitrite—and it was found to be the same in each case, but different from the density of nitrogen obtained from the atmosphere. After this result was reached, Lord Rayleigh satisfied himself that the difference could not be due to the presence of any known gas likely to be present. He then, in conjunction with Professor Ramsay, removed both the oxygen and nitrogen from a certain volume of air and found that a substance was left that was neither oxygen nor nitrogen, as was proven by its spectrum; the oxygen and nitrogen were removed from air by different processes, and in each case the new substance was left. Since the announcement of the discovery, no investigations tending to throw light on the nature and properties of the new substance have been published, and it is not known whether it is an element or a compound. According to the discoverers it constitutes about 1 per cent of the atmosphere. Professor Dewar had previously noticed that liquefied oxygen and nitrogen gave a clear liquid, while the liquefied atmosphere was turbid, and it has been suggested that this new constituent of the atmosphere may have caused the turbidity; but Professor Dewar says that the substance producing the turbidity can not amount to 1 per cent. It may be confidently assumed that if there has been no mistake, the discovery will soon be verified and the properties of the new substance determined.—PROF. S. E. TILLMAN, U. S. M. A., in *Cosmopolitan*, January, 1895.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:
PER ANNUM, IN ADVANCE $5.00
SINGLE COPIES. . . . . 10 CENTS.
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 86 FIFTH AVENUE, CHICAGO, ILLINOIS.
W. H. LOWDERMILK & CO., WASHINGTON AGENT.

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This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Henry P. Newman, Venetian Building, Chicago, Ill., sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership.

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly.

Gentlemen already members of the Association should send their annual subscription to the Treasurer, or direct to the JOURNAL office.

All communications and manuscript of whatever character, intended for publication in the JOURNAL, should be addressed to the *Editor*, and all communications relative to the business of the JOURNAL, proof sheets returned, or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 86 Fifth Avenue, Chicago.

SATURDAY, JANUARY 26, 1895.

ADVICE TO YOUNG OCULISTS.

Since the extraction of cataracts without iridectomy has been reintroduced into ophthalmic practice, there has scarcely ever been a meeting of oculists at which the question of cataract operation with or without iridectomy has not been debated. But as usual in medical discussions, the main question is generally lost sight of and each speaker dwells upon some pet hobby—some little modification or so-called improvement in the operative technique, which he insists is very essential to the success of the operation; and the longer the question is debated the farther the opinions seem to drift away from each other. Upon the experienced oculist these discussions make no impression; as HANSEN GRUT said at the Ophthalmological Congress at Edinburgh, they only show what was known before, that cataracts can be successfully extracted in various ways. But the young oculist who hears or reads these conflicting views, is in danger of losing all confidence in himself and of feeling entirely at sea as to the proper method of operating.

For these young oculists, DR. HERMANN PAGENSTECHER, of Wiesbaden, has recently published in the *Klinische Monatsblätter für Augenheilkunde* a short paper full of good, sensible and practical advice: "The young oculist should never try experiments, but adhere to those indications and to that operative method which experience has shown us to be the easiest in execution and the safest in restoring the sight. And this method is the extraction with iridectomy, because it can be employed in all cases, while the simple extraction is limited to certain kinds of cataracts whose proper selection is very difficult, even after long experience.

"We can operate without iridectomy in all cases in which we can with certainty expect that we take no chances of a subsequent protrusion of the iris. Unfortunately, this is not always possible, and it is this weak point which will frustrate all efforts of making the extraction without iridectomy, the operation for all uncomplicated senile cataracts. Even the most expert operator is never able before the operation, to tell with absolute certainty that he will operate on this eye without iridectomy and without risking a prolapse of the iris. This fact alone is to me sufficient to advise every young oculist not to operate without iridectomy; for to excise *lege artis*, the iris after the removal of the lens requires a far greater dexterity than the iridectomy before the extraction." DR. PAGENSTECHER concedes the operation without iridectomy has some advantages; it preserves the natural round pupil, and usually the eyes show less irritation during the healing process. But it also has its serious drawbacks; cortical remains can not be thoroughly removed; hence posterior synechiæ and secondary cataracts are more frequent than after the extraction with iridectomy; but the chief drawbacks are the incarceration and prolapse of the iris, of which even the most expert operators report 8 to 10 and more per cent.; these accidents always retard the healing process, produce a hideous distortion of the pupil, and sometimes have caused the loss of the eye by suppuration or irido-cyclitis. "This is a sad experience and too dear a price for even the greatest series of nice round pupils."

But if such disastrous results occur in the practice of a surgeon having an unusually large experience, so much more reason for the beginner, in the interest of his patients and for his own good, not to practice the operation without iridectomy. He shall first acquire experience and the greatest manual dexterity with an operative procedure by which he can operate upon *all* cataracts (and this is the operation *with* iridectomy); then, he will, by-and-by, find out for himself when and how much he may with safety depart from his accustomed practice.

MEDICAL EDUCATION.

The present is a period of evolution in methods of medical education. Colleges have nothing to lose and much to gain in enforcing honest high grade work. Up to a period of the last few years the profession as a whole, was notably indifferent as to the character of work being carried on in the various colleges although societies passed the usual perennial resolutions. The number of truly high grade institutions could be counted upon the fingers of one hand. They were not supported by the profession with that unanimity that their efforts merited; indeed, in a few instances these schools were for years upon the verge of starvation.

Through stress of circumstances and with the con-

currence of the indifferent preceptor, the student selected that college wherein he could secure his degree with the greatest ease. The result has been to flood the country with a profession, a large number of whom are not as well educated as the average man in other walks of life. In consequence the medical profession as a whole has suffered. To-day, however, the situation is quite changed. As the result of an aroused professional and public sentiment, we have in sixteen States in this country, medical laws that fail to recognize the diploma as an equivalent evidence to entitle the holders to practice medicine. These persons are required to prove their fitness to practice by undergoing a personal examination upon all the branches included in the field of medicine. The work of these boards can not be hidden. A series of statistics published, covering over two thousand examinations indicate that one-fourth of all applicants fail to pass their examinations. In an additional paper about to be published a similar condition of affairs will be found to exist, thus bringing the statistics down to January of the present year. Like the first paper it will be found that in making a comparison of the proportion of alumni, successful before the different boards, that those schools exacting good work rarely fail, upwards of 95 per cent. of all applicants being successful, while the graduates of the schools of the second grade suffer in alarming proportions, viewing the question from the standpoint of the disappointed student. In analyzing the work of these boards as applied to the medical colleges of the country but one conclusion can be inferred: It is, that the proportion of graduates of the individual colleges will accurately and impartially indicate the character of medical instruction being afforded by each school at the time of conferring the degree.

The influences that have been at work in bringing about the wide medical legislation of this country being so recent are familiar to all; suffice it to say that it was accomplished without the assistance or even the coöperation of the faculties of the medical colleges of the country; with a few exceptions, where the faculties of some of the high grade schools joined with the promoters of the proposed legislation.

It is our opinion that notwithstanding the far reaching influence of the medical press, and the support of the various medical societies of the country, medical legislation alone caused the healthy reform. It is also apparent that the enforcement of efficient medical legislation in a few States will do more in destroying the dangerous work of the low grade college than all other factors combined.

The history of reform in methods of medical education in this country is about as follows: The Constitution of our ASSOCIATION provided for a standing committee on medical education, and the ASSOCIATION took the initiative, and as far back as in 1847 the faculty of the University of Pennsylvania made an ineffectual effort to bring about needed reforms in methods of teaching. After a prolonged trial it was abandoned. In later years, Bellevue Hospital Medical College suffered a similar experience; the first Association of American Medical Colleges was disrupted through the action of the representatives of a few of the low grade schools and a similar effort was made to disrupt the work of the present college association but fortunately without success. Up to the period of establishing efficient medical legislation, about five years ago, the low grade college seemed to thrive. About this time those colleges that had adopted the change from the two- to the three-year course observed an increased attendance instead of the falling off that was really expected by the deans of each school. It was at this time that the present Association of American Medical Colleges was organized, and aided by the efficient work and influence of the various State boards was the precipitating influence in bringing about the adoption of the three-term requirement by the fifty-four schools that subscribed to its by-laws the year of its organization. The change from the three to the four years course is being accomplished much in the same way. It is the experience of the schools that anticipated this great reform and are now working under the four year curricula, that they have an increased attendance. As affecting the colleges themselves there is but one interpretation, looking at this question from the college standpoint: It is that the time has arrived when the student seeks the doors of that institution that affords the best facilities for instruction. Our boys do not care to be limited in their practice to those States not blessed with laws regulating medical practice, but upon the contrary recognize that the day of the low grade medical college is on the wane, and that disgrace faces the work of all such institutions, and will continue to do so, so long as we have efficient medical practice laws.

The action of the Association of American Medical Colleges in adopting the four year curriculum at San Francisco last year will prove to have been the precipitating factor in stepping from the three to the four year's requirement by the colleges of the country. We hear nothing but good news in this direction. The provisions of the four year's curricula goes into operation with all new matriculates beginning with this present calendar year, who are members of the College Association or of the "Homeopathic" College Association. The resolutions adopted by the AMERICAN MEDICAL ASSOCIATION on this point become operative with all matriculates of the present year; and in the future if they ever hope to become members of this body. It is reliably re-

ported that at the present writing, forty-two medical colleges, members of the College Association have indicated their intentions favorably on the new regulations of this body. Unless all signs fail, about every college situated in the Northern States will require of the 1895 entering class, attendance upon at least four courses of medical lectures, in different years, before conferring the degree of M.D. Reports from the other medical colleges are not so favorable. We are of opinion, however, that the profession of the other States will not long tolerate lagging upon a question of this character. The colleges working under the four years' requirement at the present time have an increased attendance in their freshman class. They will open their doors the coming fall with still further increase of attendance, while those colleges which fail to grasp the situation and adapt themselves thereto, will be placed in an embarrassing position, as well as the extreme probability of having for their class of new matriculates an inferior quality of men. The time is near at hand when the faculties will be looking into the work of the coming session, and the question of the adoption of the new standard will be the all-important question of policy, if not already decided upon. In view of the emphatic resolutions adopted at several sessions of the ASSOCIATION under whose auspices this JOURNAL is published, we are reminded that this is an opportune time to discuss this subject. There is no known excuse why the colleges should not at once unanimously adopt the four-year requirements. If any exist, we will gladly give space for their citation in these columns; on the contrary, we believe the arguments in favor of the proposed change to be many and imperative, and until the action shall have been rescinded, we shall advocate that policy, in impressing upon the representatives of these schools the necessities of continued reform in medical education. With the adoption of the four years course we will hear less upon this subject from Europe, and we will be able in the near future to point to a profession whose general information is upon a par with that of any European nation. We shall look for the receipt of the usual grist of 1895 announcements with additional interest.

THE NAVAL RE-ORGANIZATION BILL.

The young officers of the line of the Navy have concocted a new scheme for speedy promotion, which, if worked through Congress as at present framed, will do the Medical Corps great harm.

The new bill is neither in the interest of economy or efficient service, and as already intimated, was apparently born of a desire to secure promotion without regard to the great injustice inflicted upon the staff, or to the older officers of the line who are unfavorably affected by the bill.

One section alone of this iniquitous bill shows its true nature quite clearly. It is that which provides for ten additional rear admirals. We now have six, to command the 8,500 enlisted men of the Navy, when the Army of 25,000 enlisted men are satisfied with three major generals, (having the same rank as rear admiral). It is well known there are only five stations which require rear admirals; if this bill should pass there will be eleven rear admirals on shore to help increase the deficiency in the treasury. There are now 719 line officers on the active naval list of whom more than half are on shore, if we leave out of the count those on coast survey duty, and count them as at sea.

The reserve list created by Section 14 of this bill puts out of active service some of the ablest men in the Navy, and operates to reduce the pay of the Medical, Pay and Engineer Corps, simply that some young line carpet knights below the rank of lieut-commander may be promoted.

"Why," asks the correspondent of the *Brooklyn Eagle*, "should a doctor's pay be diminished because of any change in the line? His value does not depend upon the line. The market value of a doctor does not depend upon the supply of ensigns. He comes from civil life, and his pay should be fixed at what good men of his profession are worth. What has a paymaster's pay to do with the line? His bond of $25,000 and his responsibilities in handling thousands of dollars, his business instincts and training are what should be considered. These men have educated themselves, and no officer of the staff can reach the ultimate high pay of the line or hope for the remarkable promotion provided for the line by this bill. Any one can see who reads this bill that it is a line measure and a measure for only a part of the line. It degrades the staff and makes it the servants only of this part of the line. It makes a plaything of the Navy for their benefit—a costly plaything. It creates in its provisions for promotion what might be called the lottery scheme for the line of the Navy. The senior lieutenants, lieutenant commanders, commanders and captains either draw prizes or are turned down. Commanders who feel quite certain of selection say that they fully expect to be rear admirals within two years of the passage of this act, many lieutenants will be commanders and ensigns lieutenants. This bill benefits those in the line who profit by the reserve list. All other officers are tributary to them, and either lose all prospect of a better future or contribute directly to the support of those fortunate enough to be rapidly advanced. A minority desire ultimately to profit tremendously. It is the active aggressive minority which is endeavoring to push to the wall all who are in the way. This lottery scheme of the Navy has by its very proposal already done much to injure the morale of the service. The people of this enlightened country will never understand this mixture of extravagance and injustice.

"Another feature of this reserve list is that it is perpetuated. It does not die with the ninety-five men blacklisted. Section 12 provides that there shall be each year sixteen promotions in the list of sea-going officers to the grade of commander, and twenty promotions to the grade of lieutenant commander, and that when this number does not occur naturally it is to be created by forcing a sufficient number of officers from these grades on the reserve list. This blacklisting and scramble is to go on indefinitely, and for every man so degraded another enters to keep the line corps up to 720. No such firebrand as this bill has been cast at the Navy since 1855. It is a mistake to think that this bill is wanted by the service at large. It is opposed by 90 per cent. of the line officers of and above the grade of lieutenant commander and by every member of the Medical, Pay and Engineer Corps. Along with the desire to kill the ambition of the best part of the line, there is woven in this bill the intention to hold down and oppress the staff corps. It treats the Medical, Pay and Engineer Corps, as if designed expressly for the purpose of destroying their efficiency, humiliating their members and making them the servants of the line

branch rather than of their country. Such a bill as this is devoid of every sign of justice and fair play. The Medical, Pay and Engineer Corps are absolutely essential to the efficiency of the naval service."

It seems impossible that such a wholesale plunder of the public treasury would or could pass Congress. We read of the forty admirals now on the retired list, and we have read of the forty thieves. We sincerely trust that the zeal for promotion of the young midshipmen, will not lead to the general belief that the terms may become synonymous.

"SUNDOWN DOCTORS AND EVENING COLLEGES."

In our Washington news of January 5, note was made of an order of the Commissioner of Pensions preventing clerks in the Bureau, who are physicians, from practicing medicine after office hours. In this branch of the government service, as well as in others, there are a number of graduated physicians who attend patients after office hours and are known as "Sundown Doctors." This item has been recurring frequently to our mind since it was published, and always coupled with the idea that if there were no evening colleges in Washington, D. C., there would be fewer "sundown" doctors in that city. A medical man may find practice unremunerative or uncongenial to him and may accept a place in the government service, particularly in the Bureau of Pensions, the Record and Pension Division of the War Department or the Office of the Surgeon-General of the Army, Navy or Marine-Hospital Service, where his medical knowledge would increase his clerical efficiency and status. There would, therefore, always be found in these offices a certain number of medical graduates, most of whom, however, would be satisfied with their official position.

The Federal Capital is almost the only city in the United States where are to be found medical colleges with a lecture program which begins no earlier in the day than 5:30 P.M. The object of these late lectures is evidently to gather in from the Departments those ambitious young men who feel that they were made for something better than the routinism of departmental office work. Medical study and, with due respect to the faculties, medical teaching, to be efficient, should put to use all the mental energy of the individual. Night classes, therefore, can not be productive of as good results as day classes. The clerk, who has studied and graduated at a night school hesitates to cut adrift from his clerkship to undertake the responsibilities of life in his new profession and he practices, as he studied, after sundown. The medical colleges of Washington point with pride to their record and their lists of graduates to show their status; but since they do so well now, it is evident that they would do better and stand on a much higher plane if all the brightness of the day instead of only the dullness of its fag end were devoted to the work of education. One night college is enough for the needs of those who can not afford to give the day to study. The other colleges of the Federal City should call for the best energies of their students and support their curriculum with the best energies of their teachers. With the four years' course which is now required, with their able professors and well-equipped laboratories, and all the facilities which Washington offers for medical study there is wanted only day classes to make that city an educational center of national importance.

THE WEATHER BUREAU AND SANITARY CLIMATOLOGY.

Last year the Chief of the Weather Bureau sent out a letter to sanitarians and others, inviting opinions on the best means of making the weather service of the United States of benefit to sanitary science. The Editor of this JOURNAL among others sent a rather lengthy letter dated Jan. 20, 1894, giving suggestions in detail. We are therefore greatly pleased to see that the Bureau has moved in the matter, and we feel sure that its action will be sustained by the medical profession generally. The great influence of climate in the etiology and as well in the therapeutics of disease, has been so little studied, that it is very gratifying to see that the Agricultural Department is prepared to start the movement.

The following circulars are self-explanatory:

Circular No. 3. Sanitary Climatology.

U. S. DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU.
WASHINGTON, D. C., Jan. 2, 1895.

To the Editor:—At the instance of the Honorable the Secretary of Agriculture, the Weather Bureau will extend the scope of its work, as set forth in the accompanying circular.

As there are doubtless many persons who may be interested in the proposed investigation and willing to coöperate and whose names are not known to the Bureau, I would be pleased if you would give notice of this investigation in the columns of your publication.

Very respectfully,
MARK W. HARRINGTON, Chief of Bureau.

Circular No. 1. Sanitary Climatology.

U. S. DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU.
WASHINGTON, D. C., Jan. 2, 1895.

The interest manifested by every class of people in ths subject of climate and its influence on health and disease has determined the Honorable the Secretary of Agriculture, through the medium of the Weather Bureau, to undertake the systematic investigation of the subject.

It is hoped to make the proposed investigation of interest and value to all, but especially to the medical and sanitary professions, and to the large number of persons who seek, by visitation of health resorts and change of climate, either to restore health or prolong lives incurably affected or to ward off threatened disease.

The study of the climates of the country in con-

nection with the indigenous diseases should be of material service to every community in showing to what degree local climatic peculiarities may favor or combat the development of the different diseases, and by suggesting, in many instances, supplementary sanitary precautions; also by indicating to what part of the country invalids and health seekers may be sent to find climatic surroundings best adapted to the alleviation or cure of their particular cases.

The hearty coöperation of the various boards of health, public sanitary authorities, sanitary associations and societies, and of physicians who may feel an interest in the work, is asked to achieve and perfect the aims of this investigation.

No compensation can be offered for this coöperation other than to send, free of cost, the publications of the Bureau bearing upon climatology and its relation to health and disease to all those who assist in the work.

Coöperation will consist in sending to this office reports of vital statistics from the various localities. That these reports may be of value, it is evident to all that they should be accurate and complete, and be rendered promptly and regularly. Blank forms of reports have been prepared so as to occasion as little trouble and labor as possible on the part of the reporter, and will be furnished by the Bureau on application.

At the very beginning of the investigation it is not possible to outline precisely the channels through which the results obtained will be made public, but it is hoped to publish soon a periodical devoted to climatology and its relations to health and disease. The publication will probably resemble in size and general appearance the present *Monthly Weather Review*, the subject matter being, of course different.

More detailed information will be furnished on application.

MARK W. HARRINGTON, Chief of Bureau.

ANONYMOUS COMMUNICATIONS.

We beg to announce once more to correspondents that anonymous communications can not and will be noticed or published in the JOURNAL. We have received a number of them in the last two weeks. A gentleman writing a communication attacking any one, should be willing to put his name to it for the information of the editor, even if not for publication. Some of those recently received we would have printed in the Correspondence column with pleasure, but as the author did not give any clue to his identity we were unable to use them.

CORRESPONDENCE.

Medical Medals—Request for Assistance.

NEWPORT, R. I., Jan. 15, 1895.

To the Editor:—In the course of an enumeration of the medals illustrating medicine that have continuously appeared in the *American Journal of Numismatics* since January, 1889, several questions have occurred which I have failed to settle, and concerning which I shall be very glad for aid.

British America: Dr. Richard Noble Starr, of Caradoc, Canada. What were his dates of birth and death? Dr. Orrin C. Wood, of Montreal. His middle name, and dates?

Central America: Dr. Perfecto G. Bustamente, of Gaudalajara, Mexico. His middle name, and dates?

South America: Dr. Alacombe, Puerto Cabello, Venezuela. Who was this person? If a medical man, his dates and full name? Dr. Pedro Ascarrinus, of Bolivia. His dates and city of residence? Dr. Juan Adriano Chasas, of Asuncion, Paraguay. Was he a physician or a lawyer? If the former, his dates?

The United States: Dr. C. P. Bronson,* an apparently irregular ophthalmologist. What were his full name, his dates and his residence?

Dr. Selleck, connected with Chesebrough, Stearns & Co., of New York. Who was he and what his full name and dates?

United States Medical Colleges: The medals have been described of the Medical College of Alabama, (Nott); Medical Department of Yale University, (Campbell); Harvard University, (Boylston); one of those of Medical Department of Long Island, C. H. (Dudley); one of the two of Medical Department of Rutgers College (Rutgers); College of Physicians and Surgeons, N. Y. (Harsen); University of City of New York (Mott, 2); Sterling Medical College; Jefferson Medical College (Toner); Alumni Medical Department, University of Pennsylvania; Anat. and Phys., Amherst College (Sawyer); Hahnemann Medical College of Philadelphia (2); Eclectic Medical College of New York (Newton); Missouri Dental College (J. Hunter); and New York College of Dentistry (2).

Of the following, descriptions are desired. Where, instead of being wholly "struck," they are partially or entirely engraved the fact should be stated, as the last of these conditions is not recognized by numismatists: Medical Department of University of California; Medical Department of University of Louisville; Missouri College of Medicine; Baltimore Medical College; Medical College of Virginia; Medical Department of Hampden Sidney College; Medical Department of Long Island C. H. (second medal); Medical Department of Rutgers College (citizen's medal. Who was this "citizen of New York?"); Woman's Medical College of Chicago; Woman's Medical College of Baltimore; Columbia Veterinary College, New York; California College of Pharmacy; Maryland College of Pharmacy; Philadelphia College of Pharmacy; Cincinnati College of Pharmacy; Alumni St. Louis College of Pharmacy; College of Pharmacy, City of New York; and Pharmacal Department of Vanderbilt University.

United States Hospitals: The medals have been given of St. John's Guild Floating Hospital, New York, (2); German Hospital, New York; Methodist Episcopal Hospital, Philadelphia; United States Naval Hospital, Portsmouth, Va.; National Asylum, Augusta, Me.; Boston City Hospital Training School for Nurses; Bellevue Hospital Training School for Nurses, New York; Mt. Sinai Hospital Training School for Nurses, New York; Philadelphia Woman's Hospital Training School for Nurses; University of Pennsylvania Training School for Nurses; Waltham, Mass., Training School for Nurses; St. Barnabas (Nurses') Guild; Nederland Israelitish Sick Fund, New York; Washington Kranken Unterstultzungs Verein, New York; Medical Charities, Philadelphia; and of the United States Sanitary Commission the following: Citizens' Volunteer Hospital, Philadelphia (2); Union V. R. S. Fair, Philadelphia, 1863; Nantucket, Mass., Fair, 1864; New York Fair, 1864; Philadelphia Great Central Fair, 1864, (4); also Howard Association, Norfolk, Va., 1855; Savannah Banner Association (Yellow Fever), 1876; and Howard Medical Corps, Memphis, Tenn., 1878.

United States Medical Societies: I have given the medals of AMERICAN MEDICAL ASSOCIATION, (2); Ninth International Medical Congress, 1887, (2); Columbian Dental Congress,

Chicago, 1893; Louisville Medico-Chirurgical Society; and American Pharmacal Association (Block House, Pittsburg). There is another of the last of these institutions, and one of the Medical Lyceum, Philadelphia, 1808, about which I am still in doubt. Concerning that of the World's Hygienic Exposition, Chicago, 1893 (struck in Belgium), I have but recently ascertained.

Information concerning any medical medals, not indicated above, will also be duly valued.

HORATIO R. STORER, M.D.

* C. P. Bronson, M.D. Lived in Louisville, Ky., was a traveling lecturer on Elocution, and published a book on the same.—ED.

Department of Public Health.

CHICAGO, ILL., Jan. 22, 1895.

To the Editor:—It is hoped that the present session of Congress will make suitable provision for substantially carrying out that portion of the President's suggestions embodied in his message in December last, wherein he recommended that a "National Health Bureau be established." And it does not seem that any very great amount of additional argument should be necessary to bring about this important step of legislation.

In a few weeks, the present Congress will be "history." Before its *demise*, it might do something in the way of genuine reform in public health matters, and the well-known maxim, "*Salus populi suprema est lex*," prevail.

If, on the other hand, the present Congress should interpose dilatory objections and pass this measure by, without creating such a branch of our federal government, for obvious reasons it appears to the writer, legislation with the delays liable to occur in future that will be necessary to carry this through to a successful termination, may require two years longer before it is done. This not improbable delay therefore may involve serious consequences to the national health, as well as prove disastrous and detrimental to the commercial interests of our country, of which enough of the latter has already occurred to satisfy the people for generations to come. In a word, then, it is a condition that confronts us as members of a noble profession having at heart the welfare of the nation.

More than ten years ago (*vide* Proceedings of the Chicago Medical Society, September and October, 1884) expediency and timely action was urged upon our National legislators in this direction. It appeared then, as it does now, that there is a sanitary work which can be done and exacted by the National government, *pro bono publico*, of local or municipal boards of health who can not be made to comply, or who will not comply with the request of another board of equal importance, as has been the case a number of times within the past few months, in at least one of our large cities where the chief executive officer of the Health Department refused absolutely to furnish reports regarding smallpox. What good was to be gained by suppressing the truth concerning this greatly dreaded malady is beyond my comprehension.

This proposed department of the government, with a medical secretary of the same, will not only be in concord with, but coöperate in friendly professional intercourse with other health organizations, sanitarians and scientists, and in a more methodical manner it is believed it will be the means of preventing an outbreak of any of the pestilential diseases throughout the country, as well as to prevent the introduction of them in the larger cities or in different portions of the States of the Union. Or, in case any form of disease of a contagious or infectious nature should get a foothold, efforts to suppress it if it be of endemic character, or epidemics of all kinds would be more thoroughly accomplished and sooner brought under control. To accomplish this, the secretary of this proposed department should be clothed with, or granted full power for the investigation of epidemics and preventable diseases, and be provided with necessary funds for this specific purpose.

Last year, Prof. C. B. Comegys, M.D., of Cincinnati, was obliged to resign the chairmanship of the special committee of the AMERICAN MEDICAL ASSOCIATION appointed for the above purpose. For four years he labored assiduously and did much toward bringing about this greatly desired end. Dr. Comegys is entitled to great honor and credit for his diligence and painstaking labors in this matter, and he is still an active member of the committee. The committee which has had this subject under consideration has profited by the experience of its former chairman and his colleagues and now has at its head a gentleman who is equally well known in sanitary matters as his predecessor, Dr. Jerome Cochran, of Montgomery, Ala., who with the assistance of his coadjutors if all signs point correctly, will ably present this important subject to the Baltimore meeting in May next. Unless the medical profession, and the press, both medical and secular throughout the United States work hard and speedily impress upon Congress the necessity of passing the bill prepared by Dr. Comegys and his fellow-committee men, or at least secure favorable report from the committees appointed by both branches of Congress, this measure will be lost.

Why can not Congress gracefully create this apparently inexpensive branch of the government with a medical secretary of same, and a grateful country will be their reward.

Let the profession be united on this subject and invoke the press and its efforts and appreciation of the country's need in this direction. I doubt if there be any who deny that such a law should be enacted. By so doing, consistent agitation on our part will not have been in vain.

Very truly yours,

LISTON H. MONTGOMERY, M.D.

PUBLIC HEALTH.

Disinfection of Barbers' Tools.—Blaise remarks, in *Annales de l'Hygiene*, that as certain diseases are transmitted by the tools used by barbers and hair-dressers, it is important to wash and disinfect them each time after being used. As to the agents—carbolic acid kills the microbes effectually but its disagreeable odor precludes its use; boiling water rusts the instruments, even if nickel-plated, since the cutting edges are not plated. Blaise thinks the best method is to dissolve 10 parts of carbonate of potash or soda in 100 parts of hot water and immerse the instruments in this solution; they leave this bath brilliant and free from oil. Some of the essential oils may also be used, as many of them possess well established microbicidal properties. There are also creolin and benzoic and thymic acids, whose use is widespread and their antiseptic powers incontestable.

The Antitoxin in France.—Preparations on a very complete scale will be completed by the close of this month, whereby the whole of France will be furnished with an adequate supply of the Roux-Behring serum. The State has voted an annual sum of 100,000 francs to the *Institut Pasteur*, 20,000 of which are allotted to the vaccination department of the Academy of Medicine and the remainder is to be used for the propagation and gratuitous distribution of the diphtheria antitoxin to charitable institutions. It is estimated that a stud of from 130 to 140 horses will supply all the serum required for the entire population of the country; that the entire cost of their care and maintenance, the preparation

of the serum and postage upon the tubes, will not exceed 180,000 francs—of which sum the State appropriation contributes 44 per cent., leaving 100,000 francs to be made up by the sale of the serum to those able to pay for it, and by municipalities and departments who will defray the expenses of maintaining one or more animals at the *Institut*—the department of the *Bouches du Rhone*, for example, will maintain six horses for its own supply. The annual expense is computed at 1,000 francs per animal, and this will secure a monthly supply of 150 injections of 20 c.c. each.

Contagious Diseases.—Except influenza the contagious diseases seem to be on the decline throughout the country generally. In isolated localities diphtheria is as prevalent as in the closing months of last year, but its epidemic tendency in the large cities has subsided. So too with smallpox; Secretary Wingate of the Wisconsin State Board of Health, reports only 13 new cases, with no deaths, during the week ended January 19; in the State at large during the same period, 3 cases, 1 death, were reported at Mishicott, 4 cases in Gibson Tp., 2 cases at Two Rivers, 1 case, 1 death at Fond du Lac and 1 case in Fountain Tp. Dr. F. W. Reilly, who has been placed in charge of the Contagious-Disease Bureau of the Chicago Health Department, reports the total number of new cases in that city for the first twenty-two days of January, as follows: Reported by physicians and inspectors, 129; found by inspectors and not previously reported—convalescent, 2, dead or dying, 6; total, 137. Of this total, 128 cases were removed to the isolation hospital; 1 case was isolated at residence; the 2 convalescents were disinfected and the dead and dying were taken charge of by the inspectors, the premises disinfected and the exposed vaccinated. The hospital statistics for the month are as follows: Remaining at midnight, Dec. 31, 1894—84; admitted, Jan. 1—22, inclusive,—128; total to be accounted for, 212; discharged convalescent, 78; died, 32; remaining, 111. Mortality per cent., 15.5.

Sanitary State of Calcutta.—The report for the year ended March, 1894, of Dr. N. J. Simpson, Medical Officer of Health for Calcutta, contains some interesting facts. The barometric presence during the year oscillated between a minimum of 29.58, in July, and a maximum of 30.04, in December. The mean temperature for the twelve months was 76.95 F., with a maximum of 88.55 and a minimum of 63.95. While all the months of the year are remarkable for a very marked degree of humidity, the months from May to September are the true rainy months. There was much more rain than usual—in December only was there no precipitation. The births reported numbered 13,492 or 19.7 per thousand; this is higher than for the preceding five years, during which it varied from 18 to 18.6 per thousand; the Mahommedans are always the least prolific. The deaths numbered 20,113—a rate of 29.5 per thousand for the year, as against 20,180 for the previous year. The different populations as indicated by these figures of births and deaths—*Journal d' Hygiene*—will not be overlooked. The number of births and the birth rate indicate a population of 365,592; the number of deaths and death rate indicate a population of 593,333. In the Mortality Table of Foreign Cities, *Abstract of Sanitary Reports*, the population of Calcutta is estimated at 681,560; Mulhall (1892) reports the population by the official census of 1891 to be 840,130. Separating the city from the suburbs the following are the death rates from 1889 to 1893: Urban Calcutta, 26.4 per thousand (25.9 in 1893–4); suburban Calcutta, 37 per thousand (37.1 in 1893–94). It is worthy of note that the deaths from cholera in 1893–94 numbered only 273.

School Diffusion of Infectious Diseases.—In an analysis of deaths from diphtheria in London during the last thirty years, Mr. Shirley Murphy has shown that, comparing the ten years, 1881–90, with the previous decennium, there was an increase of diphtheria mortality at all ages, but most marked at the 3 to 10 years age-period. Mr. Malcolm Morris, the newly appointed editor of the *Practitioner*, adds that this general indication—that the ominous increase of fatal diphtheria has taken place mainly among children of school age—is further borne out by the mortality statistics of 1891–2–3. Comparing 1891–93 with 1861–70 it is found that the diphtheria mortality has risen 196 per cent. taking all ages; but while the increase is only 53 per cent. at ages over 10 years and 173 per cent. at ages under 3, it is no less than 309 per cent. at ages from 3 to 10. A connection is established between this increase and the operation of the Elementary Education Act of 1871, and Mr. Morris says: "It is clear that part of the price which has to be paid for the inestimable boon of universal elementary education is an increased facility for the diffusion of certain infectious diseases, a facility which has not been entirely neutralized by all the precautions which the several authorities concerned have been able to bring to bear, even with the assistance of compulsory notification." The discussion and comments add weight to the recommendations which the health authorities of Boston, Chicago and some other cities in this country, have tendered to school boards and boards of education. In brief, these are that all interior surfaces of school buildings which children are likely to touch should be washed at least once a week during the school year with the mercuric chlorid solution; that the use of slates and pencils and of slate sponges should be abandoned for pencil and paper—the wetting of the pencil tip with the tongue or the putting of the pencil in the mouth to be forbidden; and that the floors of school rooms, passages, stairs, etc., should be strewn before sweeping with sawdust wet with the disinfecting solution and the sweepings burned at once.

Creosote Poisoning by the Therapeutic Dose.—A fatal case of creosote poisoning by the therapeutic dose is reported, the result being attributed to the use of milk as a vehicle. The drug was prescribed for a female patient who took three 6-drop doses in twenty-four hours. Soon after the third dose she exhibited symptoms of intense gastro-intestinal irritation, accompanied by anesthesia and partial paralysis of the soft palate and vocal cords, and, moreover, presented erosions of the buccal and pharyngeal mucous membrane, albuminuria and signs of heart failure; her breath had a strong odor of creosote and she died in a week. The necropsy revealed extensive bloody suffusion of the stomach and intestines and ulcerations of the esophagus and of the pylorus, fatty degeneration of the liver, acute nephritis and hyperemia of the brain. Zanalski, who reports the case in the *Centralbl. f. Inn. Med.*, thinks the poisoning was due to the mode of administration; creosote is insoluble in milk, and acts as though given alone. He asserts that no other case of idiosyncrasy for the drug has been observed, but advises to begin its exhibition with doses of one or two drops and proceed to larger doses with caution.

Influence of Etherization upon Temperature.—Angelesco reports a series of observations in *Le Progres Medical* which he made on fifty patients in Professor Chaput's service. He arrives at the following conclusions: 1, the temperature is lowered during the whole of the anesthesia; 2, this lowering presents an oscillation much more pronounced at the beginning of the anesthesia—in the first hour the decrease varies between 2 degrees and 2.5 degrees, in the second hour it is less marked, only some tenths of a degree, and this difference between two consecutive temperatures is most marked in the first and second quarter hours, 0.7 to 1 degree in the first, and 0.4 to 0.5 degree in the second quarter; 3, the decrease continues very slightly during the profound sleep following anesthesia, varying between 0.1 and 0.3 degree; 4, after waking the temperature rises, following an inverse curve to the first. The oscillations, feeble at first—0.1 to 0.3 degree—become stronger as consciousness is regained and when this is nearly restored the oscillation means are 0.7 to 0.8 degree. Besides all other causes producing lowered temperature after anesthesia the author thinks that the diminished temperature,—lower with ether than with chloroform,—points to a very marked vaso-dilatation in the former case. The face of a patient under ether narcosis is nearly always congested; chloroform, on the contrary, produces vaso-constriction, as proved by the pale face.

MISCELLANY.

A Curious Legacy.—A Parisian artist recently attempted, unsuccessfully, to commit suicide. He left a will bequeathing his body to the Zoölogical Gardens for food for the lions and tigers. The next attempt was successful. This time he left his body to the Academy of Medicine, which refused the legacy, and the body was turned over to the family.

Chloroform the Favorite.—*Les Noveaux Remedes* has compiled the statistics of 52,475 administrations of anesthetics, with the following results: Chloroform, 33,083; ether, 11,669; A. C. E. mixture, 3,896; bromid of ethyl, 2,986; Billroth's mixture, 750; nitrous oxid, in dentistry, 91. Chloroform was used in 63 per cent. of the total administrations; ether in 22 per cent., and all others combined in 15 per cent.

A Sign of Hereditary Syphilis.—At the French Congress of Dermatology and Syphilography (*Rev. Int. de Med. et Chir.*), M. Jullien mentioned a malformation of the jaws which seemed to him to be characteristic of hereditary syphilis. It consists in the projection of the upper jaw beyond the lower, either all around or only in front. He has observed this ten times; in nine cases it was connected with manifestly hereditary syphilis; the tenth case was simply suspicious.

Faculty of Medicine of Vienna.—In this winter's semester the Vienna Medical Faculty contains (*L'Union Medicale*) twenty-eight ordinary professors, thirty-nine extraordinary professors and eighty-two privat-docents and assistants. In the last semester there were 2,427 medical students—nearly half the students in the whole University. Of these 1,584—119 less than for the corresponding period in 1893—were ordinary students, 322 extraordinary and 521 special.

French Congresses of Surgery and Internal Medicine.—The ninth session of the French Congress of Surgery will be opened Oct. 21, 1895, in the Faculty of Medicine. The topics for discussion are: 1, surgery of the lung (except the pleura); 2, on early or late operative interference in solutions of bony continuity (except the cranium). The second session of the Congress of Internal Medicine will be held at Bordeaux, either in August or September, 1895. The subjects are: 1, On infectious myelitis; 2, the relations of the liver and the intestine in pathology; 3, on analgesic anti-thermic agents.

Toxins Treatment of Sarcoma.—In a study of a few suggestive cases (*Medical Recorder*) Dr. Edmund Andrews details two cases of sarcoma treated with the mixed toxins of streptococcus erysipelatosus and of the bacillus prodigiosus. He concludes that these two cases, with some others similarly treated, show that these toxins have a power analogous to that of tuberculin; that as tuberculin is capable of causing the death of tuberculous tissue, so the toxins have the same effect on sarcoma. Nevertheless, "so far as these two cases go, it would seem that the destruction of very large sarcomata by these means in weak patients is apt to terminate in fatal exhaustion." The writer thinks that probably tumors of medium or small size might give more successful results.

Anatomy and Art.—Dr. Robert Fletcher discussed the relation of these subjects in an able and interesting way in his annual address as President of the Philosophical Society of Washington, D. C., December 12, last. Every paragraph of his essay, now published in pamphlet form, scintillates with notes, suggestions, references and anecdotes drawn from the history of art. Taste in art is not inherent in man; its culture requires long study, close observation and familiarity with the best masters. By its brief review of the work of these masters, Dr. Fletcher's address will do much for the cultivation of artistic taste in those who give it the attention which it merits. His conclusion, that an acquaintance with muscular anatomy by dissection, though to be recommended as useful, forms but a comparatively unimportant part of artistic anatomy, is fully borne out by the consideration that, "The noble works of Phidias and his contemporaries or successors were in existence long before the time when Hippocrates began the work of rescuing medicine from the priests and made a first imperfect sketch of anatomy."

Expressions of Pain as Evidence.—It is well settled, declares the Appellate Court of Indiana in the case of Anderson v. Citizens' Street Railway Company, decided Nov. 27, 1894, that whenever the bodily or mental feelings of a person are material to be proven, the usual expressions of such feelings made at the time are original evidence. The statements or representations of a sick person of the nature and effect of a malady or injury under which he is laboring, or expressions of existing pain, it therefore holds, are admissible as original evidence; and this is so whether they be made to a medical attendant or other person.

Liability to County for the Support of Insane in New York State.—It has been held in New York (City of Albany v. McNamara, 117 N. Y. 168) that a person receiving aid as a poor person from the officers of the poor in a city or county, in the absence of any representations on his part as to his responsibility or physical condition, incurs no liability to repay the amount expended on his behalf. That doctrine, the general term of the Supreme Court now holds in the case of Oneida County v. Bartholomew, decided November, 1894, applies, in the absence of any statutory provision to the contrary, where an insane person is supported at the county insane asylum as a poor person. Under such circumstances there is no liability on the part of the person receiving the support, or on his estate, to repay to the county the expense.

Therapeutic Value of Seine Water.—An item has been extensively copied in medical journals of late, giving the number of animals found in the Seine, which reminds the *Gazette Medicale De l'Algerie* that in 1775 a work was published entitled, "Physical, Chemical and Economical Dissertation on the Nature and Salubrity of the Seine Water, by M. Parmentier." This author declares that there is no materia medica or dictionary which does not say something on the properties of the water from the Seine. Some authors also mention it in their works. The Count of Forbin, among others, says in his memoirs that, being affected with violent colics in Paris, he only found relief and a cure by the abundant use of Seine water, by baths and drinking it. "Many officers of rank were only cured of insupportable headaches, phlegms, and nerval affections, by taking by my advice a pint of the water, cold, early in the morning." Our contemporary thinks the Faculty should bring this remedy to the notice of the profession.

Can Patients Smoke?—Jankau (*Zeitsch. f. Krankenpflege*) thinks that patients may be permitted the moderate use of tobacco, especially if they are used to it. All those with surgical disorders he says, may smoke, except those convalescing from operations on the bladder or abdomen. It should be forbidden in affections of the eyes, nose and pharynx. Among patients with medical disorders, those with peritonitis and typhoid affections should not use tobacco. In gastric diseases they may smoke if the smoke is filtered. In cardiac affections very little smoking may be allowed. It is sometimes indicated in pulmonary affections and also in syphilis. In nervous affections it is difficult to say—sudden stoppage of tobacco is inconvenient and, on the other hand, in cardiac neuroses smoking is to be permitted only when the smoke is filtered. The author says smoking should not be permitted in wards with many patients and that the best time for it is several hours after meals.

Treatment of Chloroform Asphyxia.—At a recent *seance* of the Paris Academy of Medicine, reported in the *Bulletin* of the Academy, Labbé said that in apparent death, from chloroform, he was firmly convinced that artificial respiration

should be persevered in for a long time and instanced many cases in support of this advice—particularly one in which he had kept up artificial respiration for twenty-seven minutes and was finally rewarded with a remarkable success. Lately, however, he had used rhythmical traction of the tongue, suggested by M. Laborde, in the case of a child who, soon after beginning the chloroform inhalation, became asphyxiated. Death seemed absolute, the pupils were dilated to the utmost. As soon, however, as he began the rhythmical traction of the tongue the patient returned to life with marvelous rapidity; it was a genuine resurrection. He believes this method is preferable to artificial respiration, as it is easier and much quicker. Professor Verneuil said that for some time he had used only lingual traction, alternating with flagellation of the epigastrium with a wet towel.

A Proposed Hospital for the Homeopathic Insane.—A bill has been introduced in the Illinois Legislature providing for the establishment of a hospital for the insane to be managed on "homeopathic" principles, whatever they are. The existence of the "homeopathic" sect shows some mental aberration, but this is the first public admission we have seen that any considerable proportion of them required confinement. There is nothing infinitesimal about the proposed appropriation, as the bill provides for an expenditure of $400,000.

Journal of the American Public Health Association.—No. 1, volume I, of this *Journal*, published quarterly, lies on our table. It has a handsome face, and like all of the publications of the Association is well printed. The papers in this issue comprise the larger proportion of those read at the Montreal meeting, which have been fully abstracted in this JOURNAL. We congratulate the Association upon their handsome publication, and believe that it will have a great field in the advancement of sanitary science on this continent.

The Absorption of Guaiacol.—The question whether the quantity of guaiacol eliminated by the urine in a given time, is the same when the drug is employed pure, or when mixed with glycerin, has been studied by O. Sturbe, whose tests were made in a series of skin paintings. That observer has found that pure guaiacol is absorbed more quickly than when mixed with glycerin or oil of almonds, and that the glycerin embarrasses absorption considerably and uniformly retards it, notwithstanding that the oil of sweet almonds retards absorption at first, but left alone, absorption is effected in from one and one-half to two hours easily enough.—*Courrier Médical.*

The Proposed Testimonial to Sir Henry Acland.—The friends of Sir Henry Acland propose to take the opportunity of his retirement from the Regius Chair of Medicine to "mark their appreciation of the great services which he has rendered to Oxford and the country at large and the kindness he has done to individuals. To him is mainly due the foundation of the schools of natural science in the University, the initiation of teaching in biology, and the high standard maintained by the Oxford medical degrees. There are few persons who have not profited by his labors in the study of sanitary requirements and of the laws of public health."

Subscriptions will be received by Parsons & Co., Old Bank, Oxford; London; and County Bank, Oxford; Wooten & Co., Oxford, and Gillette & Co., of Oxford. It is proposed to make provision from this subscription for the increased usefulness of the Sarah Acland Home for Nurses.

Relation Between the Physician and the Pharmacist.—Mr. Wm. J. Evans, of New York, made the following response to the toast assigned him at the banquet of the Mississippi Valley Medical Association, at Hot Springs:

"When the ultimate Jenner, Lister, Pasteur, Koch, Behring, and Roux in the ultimate institutions of preventive medicine have developed that which shall be ultimate materia medica and pharmacology, it may be found that the last branch of study to approach an exact science will have given its fuglemen such fame as to prove that it was certainly not the least among their notable achievements.

"In representing the chemist and the pharmacist, I feel obligated to say for them that they are conscious that no man liveth unto himself. Their occupation may be one which they like or dislike, but it is an occupation second only to that of the practice of medicine in the matter of making society possible. The public health is public wealth, and the grandest aggregation is the possession of valuables by the valiant. In expecting that the medical men will adopt the motto, let the standard be so high that he who fails may say, 'What I aspired to be and was not, comforts me.' The chemists and pharmacists are more than happy in adopting the motto, 'There is no office in this needful world but dignifies the doer if well done.' Will it be too much for the patient to expect, who is our nearest and dearest relation, that both schools shall adopt the motto of the great painter, who said: 'Whatever of strength, whatever of dignity we have within us, will dignify and make strong the labors of our hands. Whatever littleness degrades our spirit will lessen them and drag them down; whatever noble fire is in our hearts will burn also in our work; for as we are, so our work is, and that which we sow in our lives, that without doubt we shall reap for good or ill in the strengthening or defacing of whatever gifts have fallen to our lot.'

"Gentlemen, I have much pleasure in asking you to enlist with the chemist and pharmacist in a pledge to contribute to that which shall live after the fads and fallacies of pharmacy are forgotten."

Tours of Duty in the Army Medical Service.—The following circular was issued, Jan. 9, 1895, from the office of the Surgeon-General of the Army:

The tour of duty for medical officers below the rank of Major at the following stations will hereafter be two years, which time will be considered as equivalent to a full tour of duty in the Military Department in which the several stations are located.

This, however, must not be considered an absolute rule, as the interests of the service may frequently call for a change of station within the department or to another department before the regular tour of duty has expired, and circumstances may sometimes make it advisable to extend the tour of duty of a medical officer beyond the time specified.

Alcatraz Island, California.	Fort Myer, Virginia.
Fort Brown, Texas.	Fort Porter, New York.
Columbus Barracks, Ohio.	Fort Ringgold, Texas.
Fort Columbus, New York.	San Carlos, Arizona.
Fort DuChesne, Utah.	Fort Thomas, Kentucky.
Eagle Pass, Texas.	Fort Trumbull, Connecticut.
Fort Hamilton, New York.	Fort Wadsworth, New York.
Fort Hancock, Texas.	Fort Warren, Massachusetts.
Fort Mason, California.	Washington Barracks, D. C.
Fort McIntosh, Texas.	Washington, D. C.
Camp Merritt, Montana.	Fort Wayne, Michigan.

GEO. M. STERNBERG, Surgeon-General U. S. Army.

Approved:

DANIEL S. LAMONT, Secretary of War.

Outside of the announcement by Surgeon-General Sternberg in 1893, that those captains of the Medical Department who were nearing their examination for promotion would be assigned for a year as attending surgeons in certain cities, to afford them facilities for study and professional improvement, the circular just issued is the first formal intimation given to Army medical officers of the probable length of their tour of duty at any specified station. Since the close of the civil war, it has generally been understood that the Surgeon-General in assigning officers to duty considered the locality and character of their previous service. A tour of duty in the West has usually been followed by an assignment to an Eastern post; service in the field or at an isolated post by service at some military station near a city where the refinements of civilization with opportunities for professional culture might be enjoyed. The length of the tour at one post or in one department was four years, except for junior officers whose service in the East was limited to two years at a time. The circular just issued modifies this by restricting the two years term to twenty-two stations, among which are included the best of Eastern and the worst of the Western posts. Instead of moving the junior officers from all the Eastern stations, after two years service those only

will be moved who have enjoyed the advantages presented by the vicinity of large cities; and instead of having a four years tour for all the Western posts, the young officer who has endured the discomforts of such places as San Carlos and the Texas posts, will be relieved at the end of the two years term of service. By this arrangement the number of moves and consequent expense of transportation will be lessened, and the advantages of the good stations and the disadvantages of the bad ones will be more equably distributed than by the method previously in force.

Statistics of Intestinal Resections.—E. Becker publishes in *Zeitsch. f. Chirurg.* the statistics of resections of the intestines in Trendelenburg's clinic at Bonn for the last ten years. They number thirty-three, as follows: Five for strangulated hernias, eleven for artificial anus following strangulated hernias, two for ileus, one for appendicitis, four for fecal fistulæ following perityphlitis, one for fecal fistula from a ruptured colon, three for cicatricial strictures due to tuberculosis and six for tumors. These thirty-three resections resulted in twenty-one cures. An examination of these statistics shows that an artificial anus gives better results than intestinal resection in the treatment of strangulated and gangrenous hernia. Also that in the Bonn clinic it is the rule first to create an artificial anus and if necessary later to resect the intestine.

Association of Agricultural Chemists.—The Proceedings of the Eleventh Annual Convention of the Association of Agricultural Chemists, has just been issued from the Government Printing Office, Washington, D. C., as Bulletin No. 43, of the Division of Chemistry of the Department of Agriculture, the Chief of this division, Dr. H. W. Wiley, being the able secretary of the Association. The meeting of which this is the record was held in Washington, D. C., in August last. The objects of the Association are to secure uniformity and accuracy of the methods, results and modes of statements of analysis of fertilizers, soils, cattle foods, dairy products and other materials connected with agricultural industry; and to afford opportunity for the discussion of matters of interest to agricultural chemists. The original constitution adopted in 1884, proposed as well to secure uniformity in legislation; but two years later the Association considered it best to confine its work to matters of a purely scientific character. Its field of inquiry, as shown by the present volume, covers all branches of agricultural chemistry. Uniformity in analyses is obtained by the adoption of methods which have stood the tests of coöperative investigation by committees and full consideration by the Association, which methods are thereafter regarded as official. Processes for the estimation of phosphoric acid, nitrogen, potash, sugar, foods and feeding stuffs, butter, milk and fermented liquors were adopted at the last meeting and are given in full in the report, which contains also many interesting papers on laboratory work on these same subjects. A valuable part of the volume is the report of the Abstract Committee which in 629 abstracts gives the substance of all important articles published during the past two years in the chemical and agricultural journals of the world. The volume thus forms a most valuable addition to the laboratory not only of the agricultural but the sanitary chemist.

Abandonment of Mount Vernon Barracks, Ala.—Mount Vernon Barracks, Ala., one of the nine posts recently abandoned under War Department orders, was situated twenty-nine miles north of Mobile, on a hill three miles west of the Mobile River and 150 feet above its level. It was established in 1873 by troops from Mobile barracks in view of danger from yellow fever at the latter station. Thirty-five acres of the reservation were inclosed by a brick wall, sixteen feet high, within which most of the buildings belonging to the post were aggregated. The barrack building was of a more imposing character than those of any of the other recently abandoned posts. It was a substantially built three-story brick structure, 120 by 40 feet, with a tower four stories high and a porch with stairways affording entrance to each floor. The second and third stories were used unpartitioned as dormitories, giving over one hundred square feet and 1,000 feet of space to each man of their average occupancy. The ground floor was used for kitchen and mess hall purposes. The officers' quarters consisted of one-or two-storied brick cottages, each with an inclosed yard. The offices, guard house and magazine also were of brick. The storerooms were frame buildings on brick piers. The hospital, a frame structure, excellent in its appointments, afforded space for fifteen beds, few of which were ordinarily occupied. The dry earth system of sewage disposal was in use, with iron draw boxes in outhouses; but had the existence of the post continued for a year or two longer a sewerage system would no doubt have been introduced following the new water supply which is described in the report of the Surgeon-General for the past year: "The hydraulic ram has been replaced by a steam pumping engine, by which the water is raised to an iron tank of 36,000 gallons' capacity on the summit of the hill occupied by the buildings of the garrison. This tank is elevated fifty feet from the ground and 150 feet above the level of the pumping station. From this the water is conducted by four-inch mains to the barrack rooms, kitchens, officers and non-commissioned staff quarters and the men's water-closets and bath-rooms; also to the barracks of the Indian company and to hydrants in the camp of the Indian prisoners."

Some notoriety was given to this post by its selection as the place of imprisonment for Geronimo's band of Chiricahua Apaches. At first little attention was paid to the condition of the prisoners, but the high death rate prevailing among them led to inquiry as to its cause. Consumption among the older members of the community and diarrheal affections among the younger, occasioned the mortality, aided by the gross ignorance of the people and in many cases by their efforts at cure. Every endeavor was then made by the officers in charge to reduce the mortality. Excellent quarters were built for the prisoners. The frame cottages constituting the Indian village, about three-quarters of a mile from the post, were arranged in streets on each side of a central square. Each cottage was twenty-eight feet square by twelve feet to the eaves, detached by a considerable interval from the others, provided with a cooking stove, beds, tables and chairs and kept in a condition of thorough cleanliness. At one angle of the camp was the barrack of Company "I" of the Twelfth Infantry, composed of male Indians of the military age—represented in official reports as a model of order and neatness outside and inside. There was also built for the village a frame hospital of twenty beds, one-storied, shingled and with an inclosing veranda with green blinds. At first the hospital had little patronage, the Indians preferring to be sick in quarters and prescribed for by their own wise women and medicine men, but in progress of time they became as much accustomed to the hospital and the doctor as to the wash basin, bathing pond and cooking stove. Nevertheless, the death rate did not fall. During the first five years the rates per 1,000 living were 55, 51, 110, 146 and 110. They increased notwithstanding the care given to the sanitation of the camp. The Surgeon-General of the Army considered the mortality due to change of habits and that if the Indians were permitted to live on a larger reservation, preferably in a mountain country, their death rate would probably fall to its normal of about 40 or 50 per 1,000. The Indians were moved to Fort Sill, Indian Territory, and the post of Mount Vernon Barracks was abandoned December 4, last.

The Organs and Functions of the Cell as Described by Watase.—We are learning to look to the cell as a highly intricate organism with organs of complex structure set apart for the performance of definite functions. The boundaries of morphologic injury have, in the last few years, passed beyond the cell into the problems of the cytologic organs. Many suggestive questions of this line of research have been dis-

cussed from various standpoints in recent biologic literature—nowhere, however, have they been more faithfully studied or more clearly elucidated than in the contributions of our foremost American cytologist, Dr. S. Watasé, of the Biological School of the University of Chicago.

The first contribution from Watasé to which we desire to direct attention ("On the Nature of Cell Organization," Biological Lectures delivered at the Marine Biological Laboratory of Wood's Holl, 1893, pp. 83–103) summarizes the new ideas of cellular structure. The descriptive terms employed here are those recently proposed by Haeckel. The animal cell consists of two distinct portions, the cell body proper (cytosome), and the nucleus (caryosome). The cell body is surrounded by a boundary layer or cell membrane (cytotheca) which may be a distinct membrane, or only a thickened border of protoplasm. The nucleus is surrounded by its membrane, the caryotheca. Within the cell body is encountered a network of solid "living" material, the cytoplasm; and a fluid which fills the meshes of this network, the cytolymph, acting as a medium of exchange for the living cytoplasm. Granules of various kinds resulting from the metabolic activities of the cell are frequently encountered in the cell body, the metaplasm. Within the nucleus a similar network and a fluid portion are found. The nuclear network, or caryoplasm, consists of a stainable portion, the chromatin; and of an unstainable portion, the achromatin, which forms a delicate reticulum. "In several cases, if not in all, these achromatic filaments are the actual continuations of the cytoplasmic network existing around the nuclear membrane." The nuclear fluid, or caryolymph, bathes the solid portions of the nucleus. Lying in the nuclear substance, that peculiar organ of whose origin and destiny we know nothing, the nucleolus, is encountered; differing in its micro-chemic composition from the other nuclear contents.

The solid portions of the cytosome and caryosome—the cytoplasm and the caryoplasm—are the vital, living organs of the cell, composed of individual particles which grow and multiply under favorable conditions. The cytolymph and the caryolymph are inert media, in which the metabolic activities of the protoplasmic and nuclear networks are discharged.

Another organ of great importance is the centrosome, that deeply staining body situated in the protoplasm of resting cells, surrounded by the radiating fibers of the "attraction sphere." In explanation of the origin of this much-discussed structure, Watasé ("The Homology of the Centrosome," *Journal of Morphology*, Vol. III, No. 2, 1893, pp. 433–443) advances an ingenious hypothesis. He directs attention to the fact that at certain points in the cytoplasmic network, thickenings or nodes occur, which *stain like the centrosome*. These nodes are the so-called microsomes. Now the centrosome marks the spot at which a great number of cytoplasmic filaments center, each one of which has imbedded in its substance one or more microsomes. Assuming that each one of the cytoplasmic threads centering at the centrosome is provided with a microsome, then the centrosome would be a huge microsome, the sum of the individual microsomes of the filaments focusing at a common point. The centrosome, according to this view, is not to be distinguished qualitatively from the microsomes that are everywhere present in the protoplasmic network, and, instead of being a distinct cellular organ as maintained by Flemming and other cytologists, it is only a "gigantic microsome." In a similar manner, Watasé explains the origin of the "cell plate," that row of deeply staining minute bodies appearing at the line of protoplasmic constriction towards the close of indirect cell division. The granules of the cell plate are but large microsomes. So, also, the "Zwischenkörper," the single granule of stained material which occurs at the constriction line of certain dividing cells, is only an equatorial microsome, the product of the aggregation of several microsomes that, in another cell, would spread out as the cell plate.

In his studies upon the ova of Unio, Watasé has carefully followed the behavior of the centrosome during the process of caryokinesis or indirect nuclear segmentation. Preceding nuclear division in this object, the centrosome divides; the two resulting particles rapidly receding from each other, surrounded by their cytoplasmic rays ("attraction spheres") until they attain a position at the poles of the nucleus. Now the achromatic threads which constitute the "achromatic spindle" of cytologists, appear, and impinge upon the nucleus from opposite sides. The nucleus appears to *flatten and diminish in size* as the rays of the achromatic spindle increase in length. That is to say, as a consequence of the growth of the achromatic threads of the spindle proceeding from each of the polar centrosomes, the chromatin of the nucleus is gradually condensed until it finally assumes the condition of an equatorial plate of condensed chromatin (the so-called "chromatic equatorial plate"). At this stage the achromatic spindle consists of two cones with their bases resting on the chromatic equatorial plate, and their apices at the two centrosomes. Following the segmentation of the equatorial chromatin, and the separation of the two resulting plates, we have the appearance of *achromatic threads between* the separated plates of chromatin. These "interzonal filaments" have long been known to cytologists, and their origin has been variously described; though the phenomenon has always been a most puzzling one. Here, again, Watasé ("On Caryokinesis," Biological Lectures delivered at the Marine Biological Laboratory of Wood's Holl in the summer session of 1890, pp. 168–187) presents us with an explanation at once simple and plausible. He suggests that the interzonal achromatic filaments are but the *prolongations of the previously opposing threads* of the achromatic spindle. The fibers from the threads opposing on the equatorial chromatic plate simply continue to grow in length as the equatorial plate divides and separates. These fibers dovetail with each other and push (?) apart the segmented chromatin mass. This would give a double set of achromatic threads in the interzonal area, which would account for the refractory manner in which this part of a dividing nucleus resists the ordinary staining agents.

Finally, as regards the *origin* of the cellular organs—the cytoplasm and caryoplasm—Watasé maintains, in his paper first quoted, that these bodies arose *independently* of each other. By this assumption alone, he insists, can we explain the marked micro-chemic difference existing between the cell and the nucleus. The association of the nucleus and the cell was a later phenomenon in evolution, the outcome of the struggle for independent existence; and this association of the nucleus and the cell, as we observe it in organized nature to-day, is an outcome of the *symbiosis* of these originally independent organisms.—A. P. Ohlmacher, Cleveland, Ohio.

Washington Notes.

Health of Washington.—The report of the Health Officer for the week ended January 12 is as follows: Number of deaths (still-births not included): White 63; colored 40; total 105. Death rate per 1,000 per annum, white 16.90; colored 21.89; total 18.50. Death rate per 1,000 per annum for corresponding week last year: Still-births, white 4; colored 3; total 7.

Smallpox in the District.—There have been twenty-two cases of smallpox during the second outbreak and only two deaths from the disease. Dr. L. Elliott, who is in charge of

the smallpox hospital has made an excellent officer and has won the confidence of the profession and the public. He has been considering some scientific experiments in connection with Dr. J. J. Kinyoun, U. S. M. H. S., in vaccine lymph treatment of variola. A full report will be found in Abstract of Sanitary Reports, Marine-Hospital Service, Jan. 18, 1895.

MEDICAL SOCIETY OF THE DISTRICT.—At the meeting of the Society held on the 16th inst., the discussion on the paper of Dr. J. J. Kinyoun was continued. Dr. W. W. Johnston read a very interesting paper on the subject of whooping cough. He discussed its large mortality and made valuable suggestions for reduction of the death rate. Dr. J. Ford Thompson presented three specimens of hysterectomy and gave the history of the cases.

THE WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.—The two hundred and twenty-first meeting of this Society was held on the 18th inst. Dr. J. R. Bromwell read a paper entitled the "Care of the Breasts preceding, during and following Labor." Dr. Carr reported a case of oöpherectomy for the cure of a case of uterine fibroid. Dr. Fry presented a patient operated upon for tubal abscess who also had tubercular peritonitis. She had greatly improved since the operation.

THE WOMAN'S CLINIC.—The board of directors of the Woman's Clinic held their regular monthly meeting on the 19th inst. Considerable routine business was transacted.

THE SEWER BOND BILL.—The sewer extension bond bill, as it is known, which provides for an issue of $7,500,000 in bonds for the purpose of extending the street and sewer systems of the city into the suburbs was brought up in the Senate during the week, but was laid over on objection. The passage of this bill in the present Congress is almost an impossibility.

THE SIBLEY MEMORIAL HOSPITAL.—A committee of the staff of the hospital will hold a competitive examination on the 22nd inst., to decide who is to be the resident physician.

PROPOSED BIOLOGIC LABORATORY.—The Medical Society of the District, has written to the chairman of the Committee on Appropriations of the Senate and House recommending that a biologic laboratory be established in the District. This has been approved by the Society but will require an appropriation.

Louisville Notes.

WATER SUPPLY.—Louisville has never suffered as now from muddy water. Unless one is supplied with a proper filtering device it is almost impossible to drink the water. It is a thick emulsion of mud, there being a heavy precipitate of dark brown mud in the vessels if it is allowed to stand a few hours. The city owns a large per cent. of the stock of the water company, yet it seems impossible to accomplish anything looking to a solution of the problem of purifying or filtering the city's supply. If the reservoirs were used alternately and the water allowed to settle in one while the other was used some relief might be obtained.

DR. E. A. GRANT has been suffering with uremia the past week. He is reported much improved.

DR. DAVID W. YANDELL'S condition is very grave, and his death is expected shortly. Dr. Yandell has failed rapidly in the last few months, and now has general breaking down of the system.

CLINICAL SOCIETY.—The Louisville Clinical Society met on the 15th inst., the guest of Dr. P. Gunterman. The title of the paper read by Dr. Gunterman was "Placenta Previa."

NORTON INFIRMARY.—The report of the Board of Trustees for the year just closed shows the infirmary to be in excellent condition. Many improvements have been made during the year, yet the receipts were in excess of the expenditures. This is a worthy institution and the report has given general satisfaction.

KENTUCKY SCHOOL OF MEDICINE.—Dr. Alex. V. Griswold has been appointed to the position of clinical assistant to the Chair of Diseases of Children which was until recently held by Dr. Henry E. Tuley, with that of Clinical Medicine. The work of the dispensary has so increased as to necessitate the appointment of Dr. Griswold to look after the diseases of children, Dr. Tuley being assistant to the Chair of Clinical Medicine.

ACADEMY OF MEDICINE.—At the next meeting of this organization the subject of hernia will be discussed, under the following subdivisions: The Anatomy, by Dr. J. M. Bodine; the Treatment by Trusses, by Dr. Jas. B. Bullitt; the Operative Treatment by Dr. Wm. L. Rodman.

DEATH REPORT.—The death report for the week ending January 18 shows a total of seventy-eight deaths, pneumonia heading the list of causes with twenty deaths.

THE PUBLIC SERVICES.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from Jan. 12, 1895, to Jan. 18, 1895.

Col. JOSEPH R. SMITH, Asst. Surgeon-General, will be relieved from duty as Medical Director, Dept. of the East, to take effect about Feb. 5, 1895, and will proceed to his home, where he is authorized to await retirement.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending Jan. 19, 1895.

Surgeon JAMES R. WAGGENER, placed on waiting orders.
P. A. Surgeon L. W. CURTIS, detached from Naval Hospital, Chelsea, Mass., and placed on waiting orders.
P. A. Surgeon L. H. STONE, ordered to the U. S. S. "Alliance," Jan. 22, 1895.
Surgeon J. G. AYERS, ordered to the U. S. S. "Olympia."
P. A. Surgeon M. R. PIGOTT, ordered to the U. S. S. "Olympia."

Marine-Hospital Changes.—Official list of changes of stations and duties of medical officers of the U. S. Marine-Hospital Service, for the fifteen days ended Jan. 15, 1895.

Surgeon H. R. CARTER, to assume temporary command of Cape Charles Quarantine, Jan. 7, 1895. Relieved from such duty, Jan. 14, 1895.
P. A. Surgeon T. B. PERRY, to proceed to Delaware Breakwater Quarantine Station for temporary duty, and to rejoin station (Cape Charles Quarantine) upon completion of same, Jan. 14, 1895.
P. A. Surgeon WERTENBAKER, granted leave of absence for seven days, Jan. 3, 1895.

LETTERS RECEIVED.

Ashby, T. A., Baltimore, Md.; Ayer, N. W. & Son., Philadelphia, Pa.
Anderson, Winslow, San Francisco, Cal.
Battle & Co., St. Louis, Mo.; Bulson, E. B. Jr., Fort Wayne, Ind.; Bruner, Wm. G., Cleveland, Ohio; Blakey, J. R., Alma Center, Wis.; Beardsley, J. W., Lemont, Ill.; Burr, C. B., Flint, Mich.; Blackwell, Emily, New York, N. Y.
Chapman, J., Big Bend, Kan.; Clark A., Stockton, Cal.; Chaddock, C. G., St. Louis, Mo.; Collins, M. B., Glasgow, Mo.; Carmichael, D. A., St. Louis, Mo.
Deahofe, S. P., Mineral Point, Wis.; Davison, F. B., Fleetville, Pa.; Davis, D. H., Clinton, Mich.
Edward, J. F., Atlantic City, N. J.; Eastman, Thos. B., Indianapolis.
Fisher, Henry M., Philadelphia, Pa.; Fox, Philip R., Madison, Wis.; Fagaines, H. M., Rockvale, Col.; Fairbank, H. C., Flint, Mich.
Gores, F. C., Cincinnati, Ohio.
Hinkle, Geo. W., Harvard, Iowa; Hudson, Walter G., New York, N. Y.; Hester, W. W., Chicago, Ill.; Hawkins, Lucy, Springfield, Mo.; Hollingsworth & Mathie, St. Louis, Mo.; Hummel, A. L. (3), Philadelphia, Pa.; Hofman, J. A., San Francisco, Cal.
Kenyon News & Postal Subscription Co., Chicago, Ill.; Kerr, J. M., New Texas, Pa.; Kales, J. D., Chicago, Ill.
Lentz, Chas. & Sons, Philadelphia, Pa.
Morse, L. D., Advertising Agency, New York, N. Y.; Meyer, Chas. & Co., New York, N. Y.; McGillicuddy, T. J., New York, N. Y.; McCoy, G. F., Columbus, Ind.; McCusker, J. L., Everett, Mass.; Mogk, Wm. A., Ann Arbor, Mich.
Niles, S. R., Newspaper Advertising Agency, Boston, Mass.
Ohlmacher, A. P., Cleveland, Ohio.
Pinckard, C. P., Chicago, Ill.; Patch, Wm., Ellsworth, Ill.; Powers, M. I., Iowa Falls, Iowa; Patterson, M. F. Chicago, Ill.; Papoid, The Co., New York, N. Y.; Parker, M. G., Lowell, Mass.
Rankin, Jas. A., Jamestown, N. Dak.; Riggs, H. C., Brooklyn, N. Y.
Steckert, G. E., New York, N. Y.; Stewart, F. E., Detroit, Mich.; Steiger, E. & Co., New York, N. Y.; Scheiffelin, W. H., (2), New York, N. Y.; Smith, J. Gardner, New York, N. Y.
Treat, E. B., New York, N. Y.
Urban, B. F., Kankakee, Ill.
Vanden, George, Gallipolis, Ohio; Van Wormer, J. L., West Plains, Mo.
Worley, S. G., St. Augustine, Fla.; Wilson, T. M., Thornton, Texas; White Rock Mineral Spring Co., Waukesha, Wis.